

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sing, J. Lee Examiner #: 76060 Date: 9-20-02
 Art Unit: 1752 Phone Number 30 5-0504 Serial Number: 09/806,852
 Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

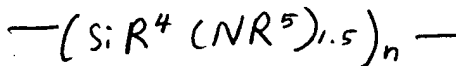
If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Photosensitive Polysilazane Composition & Method of Forming Patterned Polysilazane
 Inventors (please provide full names): Nagahara, Tatsuro; Matsuo, Hideki; Aoki, Tomoko; Yamada, Kazuhiro
 Earliest Priority Filing Date: 06-18-01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Please search for a composition comprising a polysilazane ~~wherein~~ the repeating unit of the formula



R⁴ & R⁵ independently represent

If too many hits, You can cross with a "Photosensitive" "light sensitive" carbon, alkylsilyl, alkylamino or alkoxy gp. (n is an arbitrary integer) then the composition further comprises a photoacid generator

STAFF USE ONLY

Searcher: K. Fuller
 Searcher Phone #: _____
 Searcher Location: _____
 Date Searcher Picked Up: 9/26/02
 Date Completed: 15
 Searcher Prep & Review Time: 20
 Clerical Prep Time: _____
 Online Time: _____

Type of Search

NA Sequence (#) _____
 AA Sequence (#) _____
 Structure (#) 1
 Bibliographic _____
 Litigation _____
 Fulltext _____
 Patent Family _____
 Other _____

Vendors and cost where applicable

STN ✓
 Dialog _____
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 Dr. Link _____
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 Sequence Systems _____
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 Other (specify) _____

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 9-20-02
 Art Unit: 1752 Phone Number 30 5-0504 Serial Number: 09/806,852
 Mail Box and Bldg/Room Location: 9B05 Results Format Preferred (circle): PAPER DISK E-MAIL

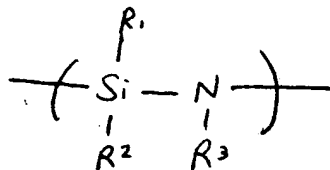
If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject-matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Photosensitive Polysilazane Composition & Method of
 Inventors (please provide full names): Nagahara, Tatsuho; Matsuo, Hideki; Forming Pattern
Aoki, Tomoko; Yamada, Kazuhiro Polysilazane
 Earliest Priority Filing Date: 06-18-'01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Please search for a composition comprising
 a polysilazane which has ^{the repeating unit} the formula



($R_1, R_2 \& R_3$ can independently represent H, alkyl, alkenyl, cycloalkyl, aryl, a group other than these groups in which the portion directly bonded to Si or N is carbon, an alkylsilyl, alkylamino, or alkoxy group)

* If too many hits,
 you can cross with

"Photosensitive"
 or "light sensitive"

* (If still too many,
 then the composition further comprises a photoacid generator)

STAFF USE ONLY

Type of Search		Vendors and cost where applicable
Searcher: <u>X. Faller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>9/26/02</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>15</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>20</u>	Other _____	Other (specify) _____

WEST

End of Result Set



Generate Collection

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L2: Entry 1 of 1

File: DWPI

Sep 30, 1987

DERWENT-ACC-NO: 1987-315987

DERWENT-WEEK: 198745

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TITLE: Photosensitive-compsn. and lithographic plate - contg. a cpd. which emits acid by exposure to light and a cpd. with silicon-nitrogen bond, or polymer contg. silicon-nitrogen bond

PATENT-ASSIGNEE:

ASSIGNEE

KONISHIROKU PHOTO IND CO LTD

MITSUBISHI CHEM IND LTDO LTD

CODE

KONS

MITU

PRIORITY-DATA: 1986JP-0016687 (January 30, 1986)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

JP 6222246 A

September 30, 1987

009

APPLICATION-DATA:

PUB-NO

APPL-DATE

APPL-NO

DESCRIPTOR

JP6222246A

January 30, 1986

1986JP-0016687

INT-CL (IPC): G03C 1/72; G03F 7/02

ABSTRACTED-PUB-NO: JP6222246A

BASIC-ABSTRACT:

Compsn. comprises a cpd. which emits acid by exposure to light and a cpd. which has Si-N bond (which decomposes by the acid), or a polymer contg. Si-N bond in the principal chain. Pref. compsn. also contains an alkali-soluble resin. Alkali-soluble resin is (phenol)cresol formaldehyde resin. Photosensitive lithographic plate comprises a substrate and a photosensitive layer. Light source is metal halogen- or high pressure mercury-lamp, Ar-ion laser, etc. Cpd. which emits acid by light is naphthoquinone-1,2-diazide-4-sulphonic acid halogenide, etc. Amt. is 1-30 wt.% of total solid components. Cpd. with Si-N bond is tetraquis(diethylamino)silane, etc. Polymer with Si-N bond is hexamethylcyclo-trisilazane, etc.

USE/ADVANTAGE - Prod. has good photosensitivity without impairing developability, etc.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: PHOTSENSITISER COMPOSITION LITHO PLATE CONTAIN COMPOUND EMIT ACID EXPOSE LIGHT COMPOUND SILICON NITROGEN BOND POLYMER CONTAIN SILICON NITROGEN BOND

ADDL-INDEXING-TERMS:

CRESOL FORMALDEHYDE RESIN

DERWENT-CLASS: A89 E11 G06 P83 P84

CPI-CODES: A08-M08; A12-L02B1; A12-W07B; E10-A09B1; E10-A09B6; G05-A01; G06-D05;

G06-F03C; G06-F03D;

CHEMICAL-CODES:

Chemical Indexing M3 *01*

Fragmentation Code

C000 G023 G221 H4 H401 H441 H8 K0 K1 K121
K4 K431 K5 K533 L7 L722 M280 M320 M414 M510
M520 M531 M540 M781 M903 M904 Q130 Q338 Q344 R043

Markush Compounds

198745-B5001-U

Registry Numbers

87140 1286M

Chemical Indexing M3 *02*

Fragmentation Code

F012 F016 F432 F580 H6 H600 H686 J521 L941 M280
M311 M321 M344 M353 M391 M413 M510 M521 M530 M540
M781 M903 M904 Q130 Q338 Q344 R043

Ring Index

00212

Markush Compounds

198745-B5002-U

Registry Numbers

87140 1286M

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0202 0206 0211 0231 1277 1304 1357 1359 1517 1995 2016 2194 2198 2201 2311 2319
2575 2805 2813

Multipunch Codes: 014 04- 05- 080 140 180 213 214 215 216 229 231 236 304 334 342 353 359 42-
524 532 537 546 658 659 660 681 725 726

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1987-134365

Non-CPI Secondary Accession Numbers: N1987-236405

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FILE 'REGISTRY' ENTERED AT 09:27:36 ON 26 SEP 2002
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STRUCTURE FILE UPDATES: 25 SEP 2002 HIGHEST RN 455250-99-4
DICTIONARY FILE UPDATES: 25 SEP 2002 HIGHEST RN 455250-99-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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FILE COVERS 1907 - 26 Sep 2002 VOL 137 ISS 13
FILE LAST UPDATED: 25 Sep 2002 (20020925/ED)

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information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

=> D QUE
L3 STR
Si~N
1 2

2,049

structures with this
in any polymer

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L5 SCR 2043
L7 2049 SEA FILE=REGISTRY SSS FUL L3 AND L5
L8 1252 SEA FILE=HCAPLUS ABB=ON L7
L9 32 SEA FILE=HCAPLUS ABB=ON L8 AND (PHOTOSENSIT? OR PHOTO?(3A)?SEN
SITIV? OR LIGHT?(3A)?SENSITIV?)
L12 65 SEA FILE=HCAPLUS ABB=ON L8 AND POLYSILAZAN?/IT
L13 253 SEA FILE=HCAPLUS ABB=ON L8 AND SILAZAN?/IT
L14 3 SEA FILE=HCAPLUS ABB=ON (L12 OR L13) AND ?ACID?(3A)?GENERAT?
L15 9 SEA FILE=HCAPLUS ABB=ON L8 AND ?ACID?(3A)?GENERAT?
L16 33 SEA FILE=HCAPLUS ABB=ON L9 OR L14 OR L15

=> D L16 ALL 1-33 HITSTR

L16 ANSWER 1 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:172588 HCAPLUS

DN 136:348206

TI A new positive-type **photosensitive** alkaline-developable
alicyclic polyimide based on polyamic acid silyl ester as a polyimide
precursor and diazonaphthoquinone as a **photosensitive** compound

AU Watanabe, Yasufumi; Shibasaki, Yuji; Ando, Shinji; Ueda, Mitsuru

CS Department of Organic & Polymeric Materials, Tokyo Institute of
Technology, Meguro-ku, Tokyo, 152-8552, Japan

SO Chemistry of Materials (2002), 14(4), 1762-1766

CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

CC 74-10 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

AB A new pos. working **photosensitive** alicyclic polyimide precursor
based on polyamic acid tert-butyldimethylsilylester and
2,3,4-tris[2-diazo-1-(2H)-naphthalenone-4-sulfonyloxy]benzophenone (D4SB)
as a **photosensitive** compd. was developed. The polymer was
prepd. by ring-opening polyaddn. of bicyclo[2.2.1]heptane-2-
methanecarboxylic-3,5,6-tricarboxylic-2,3:5,6-dianhydride with
5-tert-butyldimethylsilylamino-N-tert-butyldimethylsilyl-1,3,3-
trimethylcyclohexanemethylamine in toluene/N,N-dimethyl acetamide (DMAc)
(2/1 wt. ratio) at 20.degree. for 3 h. The film of the polymer showed
excellent transparency at the wavelengths >250 nm. The dissoln. behavior
of polymer 3 contg. 30% D4SB after exposure was studied, and the
difference of dissoln. rate between the exposed and unexposed areas was
enough to obtain a high contrast due to the photochem. reaction of D4SB in
the polymer film. The **photosensitive** polyimide precursor contg.
30% D4SB showed a sensitivity of 60 mJ/cm² and a contrast of 1.7 when it
was exposed to 365-nm light and developed with a 2.38% aq. Me₄NOH soln. at
25.degree.. A fine pos. image of 10-.mu.m-line and space patterns was
also printed in a film which was exposed to 300 mJ/cm² by contact mode.
The pos. image in polymer was converted to the pos. image in the polyimide
(PI) film by thermal treatment. The optically estd. dielec. consts. of

the polyimides with and without D4SB are 2.45 and 2.44, resp. These values are significantly lower than those of conventional arom. polyimides.

- ST pos **photosensitive** alkali developable alicyclic polyimide polyamide silyl ester; polyamic acid silyl ester polyimide precursor diazonaphthoquinone **photosensitive**
- IT Dielectric constant
Dissolution
Dissolution rate
Photolysis
Positive photoresists
Ring opening
(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)
- IT Polyimides, uses
RL: DEV (Device component use); USES (Uses)
(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)
- IT 124709-21-3P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)
- IT 84522-08-7 410090-46-9 418761-35-0
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)
- IT 75-50-3, reactions 127-19-5 2855-13-2 18162-48-6 20680-48-2 114291-20-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Baumach, B; J Prakt Chem 1991, V333, P625
- (2) Boese, D; J Polym Sci, Part B, Polym Phys 1992, V30, P1321 HCAPLUS
- (3) Chern, Y; Macromolecules 1997, V30, P5766 HCAPLUS
- (4) Hasegawa, M; High Perform Polym 1998, V10, P11 HCAPLUS
- (5) Hedrick, J; React Funct Polym 1996, V30, P43 HCAPLUS
- (6) Ito, H; J Photopolym Sci Technol 2000, V13, P559 HCAPLUS
- (7) Kometani, J; Macromolecules 1993, V26, P2165 HCAPLUS
- (8) Matsumoto, T; Advanced in Polyimides and Low Dielectric Polymers 1999, P91
- (9) Matsumoto, T; High Perform Polym 1999, V11, P367 HCAPLUS
- (10) Matsumoto, T; J Photopolym Sci, Technol 1998, V11, P231 HCAPLUS
- (11) Matsumoto, T; J Photopolym Sci, Technol 2000, V13, P327 HCAPLUS
- (12) Matsumoto, T; J Synth Org Chem Jpn 2000, V58, P776 HCAPLUS
- (13) Matsumoto, T; Macromolecules 1997, V30, P993 HCAPLUS
- (14) Matsumoto, T; Macromolecules 1999, V32, P4933 HCAPLUS
- (15) Matsumoto, T; Recent Research Developments in Macromolecules Research, Part 1 1998, V3, P1 HCAPLUS
- (16) Matsumoto, T; Recent Research Developments in Polymer Science, Part 2 1999, V3, P405 HCAPLUS
- (17) Russell, T; J Polym Sci, Polym Phys 1983, V21, P1745 HCAPLUS
- (18) Volksen, W; React Funct Polym 1996, V30, P61 HCAPLUS
- (19) Watanabe, Y; Chem Lett 2000, P450 HCAPLUS

IT 418761-35-0

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(new pos.-type alk.-developable alicyclic polyimide contg. polyamic acid silyl ester as polyimide precursor and **photosensitive** diazonaphthoquinone)

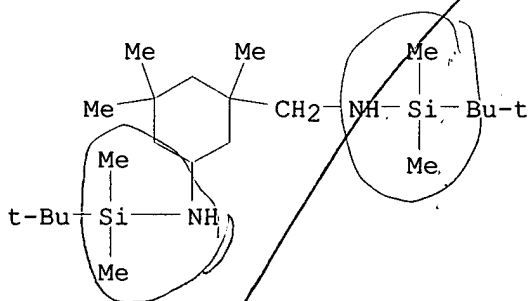
RN 418761-35-0 HCAPLUS

CN 4,8-Methano-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, hexahydro-, polymer with 1-(1,1-dimethylethyl)-N-[5-[[[(1,1-dimethylethyl)dimethylsilyl]amino]methyl]-3,3,5-trimethylcyclohexyl]-1,1-dimethylsilanamine (9CI) (CA INDEX NAME)

CM 1

CRN 410090-46-9

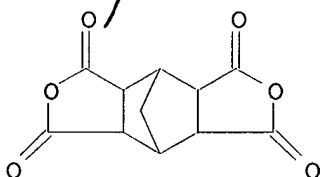
CMF C22 H50 N2 Si2



CM 2

CRN 114291-20-2

CMF C11 H8 O6



L16 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:87278 HCAPLUS

DN 136:142618

TI Polymer-containing masking bilayer for extreme ultraviolet photolithographic etching of semiconductor substrates and extreme ultraviolet photolithographic method

IN Schiltz, Andre

PA France Telecom, Fr.

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM G03F007-095

ICS G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other

Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

Date not good

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1176468	A1	20020130	EP 2001-401972	20010723
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2812450	A1	20020201	FR 2000-9759	20000726
	US 2002072014	A1	20020613	US 2001-912057	20010725
PRAI	FR 2000-9759	A	20000726		
AB	A masking layer for etching a semiconductor substrate is provided where the pattern to be etched is transferable to the masking layer by photolithog. at extreme UV (EUV) wavelengths of 10-100 nm and the layer is resistant to plasma etching. This layer consists of a bilayer structure comprising an upper layer that is sensitive to EUV wavelengths of 10-100 nm and resistant to deep UV (DUV) wavelengths of 100-300 nm and/or UV wavelengths of 300-700 nm and a lower layer resistant to EUV and sensitive to DUV and UV. The upper layer is preferably a nitrocellulose resin and/or polyphthalaldehyde and the lower layer is preferably an organosilicon compd., esp. a polysiloxane or polysilazane. The photolithog. process using this masking system and the use of a photoablation layer sensitive to EUV and resistant to DUV and UV coupled with a polymeric layer resistant to EUV and plasma etching and sensitive to DUV and UV to fabricate a masking bilayer for semiconductor etching are also claimed. The method allows creation of patterns with dimensions of <0.1.mu.. The use of the bilayer structure requires an EUV photolithog. step and a DUV isolation step but on a single development step, as usual in liq. phase or in dry phase by plasma.				
ST	UV photolithog masking polymer bilayer; semiconductor etching photolithog masking bilayer				
IT	Silsesquioxanes				
	RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)				
	(Ph Me, lower layer contg.; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)				
IT	Photoresists				
	(UV; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)				
IT	Photolithography				
	(extreme UV; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)				
IT	Ablation				
	(light-induced; polymer-contg. masking bilayer for extreme UV photolithog.)				
IT	Polysiloxanes, processes				
	Silazanes				
	RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)				
	(lower layer contg.; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)				
IT	7803-62-5D, Silane, Me derivs. 149013-47-8, Perhydropolysilazane				
	RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)				
	(lower layer contg.; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)				
IT	9004-70-0, Nitrocellulose 25750-62-3, Polyphthalaldehyde				

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(upper layer contg.; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1983, V007(010), PP-168
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1990, V014(094), PP-1010
- (3) Fujitsu Kk; JP 57168246 A 1982 HCAPLUS
- (4) Fujitsu Ltd; JP 01302350 A 1989
- (5) Hong, G; US 5344677 A 1994 HCAPLUS
- (6) Ibm; EP 0113034 A 1984 HCAPLUS
- (7) Kinney, L; US 3547629 A 1970 HCAPLUS

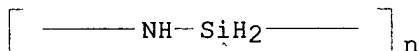
IT 149013-47-8, Perhydropolysilazane

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(lower layer contg.; polymer-contg. masking bilayer for extreme UV photolithog. for semiconductor etching)

RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L16 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:380592 HCAPLUS

DN 134:367379

TI Novel silazane and/or polysilazane compounds and methods of making

IN Abel, Albert E.; Kruger, Tracy A.; Mouk, Robert W.; Knasiak, Gary J.

PA Kion Corporation, USA

SO PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07F007-02

ICS C08G077-62

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 57

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001036427	A1	20010525	WO 2000-US41861	20001102
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6329487	B1	20011211	US 1999-439871	19991112
EP 1232162	A1	20020821	EP 2000-991937	20001102
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

NO 2002002230 A 20020510 NO 2002-2230 20020510
PRAI US 1999-439871 A 19991112
WO 2000-US41861 W 20001102

AB This invention is directed to novel ammonolysis products including novel silazanes and polysilazanes characterized by repeating units of Si-N in a polymeric compd. having a reduced amt. of Si-H bonds relative to the amt. of Si-H bonds in the starting compd. Prepn. of these novel ammonolysis products comprises introducing a starting compd. contg. .gtoreq.1 Si-H bond, such as a halosilane into a stoichiometric excess of anhyd. liq. ammonia wherein an ammonium halide is **generated** acting as an **acid** catalyst to provide an ionic and/or acidic environment for prepg. the novel ammonolysis compds. The prepd. novel ammonolysis products are retained in a sepd. liq.-phase layer and distinct from the anhyd. liq. ammonia contg. the ionized ammonium halide. Also provided are methods to purify ammonolysis products and to modify ammonolysis products by controllably increasing viscosity from a liq. to a solid and viscosities there between.

ST silane ammonolysis polysilazane manuf

IT Polymerization
(condensation; prepn. of novel **silazane** and/or **polysilazane** compds.)

IT Ammonolysis
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT Alkali metals, uses
Alkaline earth metals
RL: CAT (Catalyst use); USES (Uses)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT Ladder polymers
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT **Silazanes**
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT Synthetic fibers
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT Silanes
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT 15933-59-2P **30140-12-6P** 94422-34-1P, Ammonia-dichloromethylsilane copolymer 140217-93-2P, Ammonia-methyldichlorosilane-methylvinylchlorosilane copolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

IT 1066-35-9, Dimethylchlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of novel **silazane** and/or **polysilazane** compds.)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Barnard; US 5708114 A 1998 HCAPLUS
- (2) Huggins; US 5250648 A 1993 HCAPLUS
- (3) Seyferth; US 4482669 A 1984 HCAPLUS

(4) Sullivan; US 4961913 A 1990 HCAPLUS
 IT 30140-12-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of novel **silazane** and/or **polysilazane**
 compds.)
 RN 30140-12-6 HCAPLUS
 CN Silanamine, N-(dimethylsilyl)-1,1-dimethyl-, homopolymer (9CI) (CA INDEX
 NAME)
 CM 1
 CRN 15933-59-2
 CMF C4 H15 N Si2

Me₂SiH-NH-SiHMe₂

L16 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:276729 HCAPLUS
 DN 135:99720
 TI Direct patterning of **photosensitive** low-dielectric-constant
 films using electron-beam lithography
 AU Kikkawa, Takamaro; Nagahara, Tatsuro; Matsuo, Hideki
 CS Research Center for Nanodevices and Systems, Hiroshima University,
 Higashi-Hiroshima, 739-8527, Japan
 SO Applied Physics Letters (2001), 78(17), 2557-2559
 CODEN: APPLAB; ISSN: 0003-6951
 PB American Institute of Physics
 DT Journal
 LA English
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 76
 AB A direct patterning technique of interlayer dielec. films was developed
 for multilevel interconnections. A **photosensitive**
 methylsilazane film with a dielec. const. of 2.7 was synthesized. A
 methylsilazane precursor consists of a **photoacid**
generator, a sensitizer, and a base polymer. The
photosensitive methylsilazane film could be patterned by use of
 electron-beam lithog. or UV lithog. It was demonstrated that the smallest
 feature size of 50 nm for damascene lines and via holes could be directly
 patterned in these films by electron-beam lithog.
 ST **photosensitive** low dielec const film patterning electron beam
 lithog; methylsilazane photoresist patterning electron beam lithog
 IT Electron beam lithography
 Interconnections (electric)
 Photoresists
 (direct patterning of low-dielec.-const. methylsilazane films for
 multilevel interconnections using electron-beam or UV lithog.)
 IT **Silazanes**
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (direct patterning of low-dielec.-const. methylsilazane films for
 multilevel interconnections using electron-beam or UV lithog.)
 IT **218954-15-5**, Poly(methylsilazane)
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (direct patterning of low-dielec.-const. methylsilazane films for
 multilevel interconnections using electron-beam or UV lithog.)
 RE.CNT 5 THERE ARE 5-CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Bohr, M; IEEE Trans Electron Devices 1998, V45, P620
- (2) Dennard, R; IEEE J Solid-State Circuits 1974, V9, P256
- (3) Edelstein, D; Tech Dig Int Electron Devices Meet 1997, P773 HCAPLUS
- (4) Kikkawa, T; Tech Dig Int Electron Devices Meet 2000, P253 HCAPLUS
- (5) Mukaigawa, S; Jpn J Appl Phys 2000, V39, P2189 HCAPLUS

IT 218954-15-5, Poly(methylsilazane)

RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (direct patterning of low-dielec.-const. methylsilazane films for
 multilevel interconnections using electron-beam or UV lithog.)

RN 218954-15-5 HCAPLUS

CN Silanimine, 1-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 121221-22-5

CMF C H5 N Si

 $\text{H}_3\text{C}-\text{SiH}=\text{NH}$

L16 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:861932 HCAPLUS

DN 134:30180

TI Method for forming polyimide pattern using **photosensitive**
polyimide compositionIN Itatani, Hiroshi; Matsumoto, Shunichi; Itatani, Tarou; Sakamoto,
Tsunenori; Gorwadkar, Sucheta; Komuro, Masanori

PA PI R and D Co., Ltd., Japan

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC G03F007-037; C08G073-10; C08L079-08

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 73, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000073853	A1	20001207	WO 2000-JP73853	20000531
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1199604	A1	20020424	EP 2000-935501	20000531
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
PRAI	JP 1999-189469	A	19990531		
	JP 2000-105593	A	20000216		
	WO 2000-JP3502	W	20000531		

AB A pos.-type **photosensitive** polyimide compn. comprises a
 photolytically **acid-generating** agent and a
 solvent-sol. polyimide which is obtained by polycondensation of .gtoreq.1
 aliph. tetracarboxylic dianhydride and/or alicyclic tetracarboxylic
 dianhydride (e.g., cis-1,2,3,4-cyclopentanetetracarboxylic dianhydride)
 with .gtoreq.1 aliph. tetracarboxylic acid diamine and/or alicyclic
 tetracarboxylic acid diamine [e.g., 1,3-bis(3-
 aminopropyl)tetramethyldisiloxane], and exhibits pos.-type
photosensitivity in the presence of the photolytically

acid generating agent. A method for forming a neg.-type polyimide pattern comprises irradiating an electron beam to a coating of the above polyimide in the absence of the photolytically **acid-generating agent.**

ST polyimide **photosensitive** compn pattern prepn

IT Electron beams

Negative photoresists

Optical materials

Photolithography

Polymerization

Polymerization catalysts

Positive photoresists

(method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyimides, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyimides, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamine-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamine-polycarbosilane-polyimide-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyimides, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamine-polycarbosilane-polysiloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polycarbosilanes

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamine-polyimide-polysiloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polycarbosilane-polyimide-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyamines

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polycarbosilane-polyimide-polysiloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyimides, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polycarbosilane-siloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

IT Polyamines

Polysulfides

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyimide-; method for forming polyimide pattern using **photosensitive** polyimide compn.)

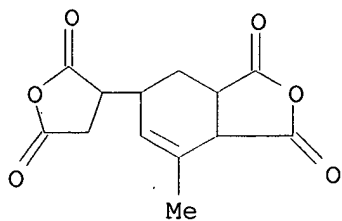
- IT Polysiloxanes, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-polysulfide-; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT Polycarbosilanes
Polysulfides
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-siloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysulfide-; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysulfide-siloxane-; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT 108-29-2 109-02-4 110-86-1, Pyridine, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT 311773-04-3P 311773-05-4P 311773-06-5P **311773-07-6P**
311773-08-7P 311773-09-8P 311773-10-1P **311773-11-2P**
311773-12-3P 311773-13-4P 311773-14-5P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for forming polyimide pattern using **photosensitive** polyimide compn.)
- IT 51-85-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; method for forming polyimide pattern using **photosensitive** polyimide compn.)
- RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Hitachi Chemical Co Ltd; JP 05204154 A 1993 HCAPLUS
 - (2) Hitachi Ltd; JP 09304930 A 1997 HCAPLUS
 - (3) Japan Synthetic Rubber Co Ltd; JP 59100135 A 1984 HCAPLUS
 - (4) Japan Synthetic Rubber Co Ltd; JP 62280736 A 1987 HCAPLUS
 - (5) Nippon Mektron K K; US 6077924 A HCAPLUS
 - (6) Nippon Mektron K K; EP 953590 A HCAPLUS
 - (7) Nippon Mektron K K; EP 957125 A HCAPLUS
 - (8) Nippon Mektron K K; JP 200026603 A 2000
 - (9) Nippon Mektron K K; JP 200034347 A 2000
 - (10) Nissan Chemical Industries Ltd; JP 04168441 A 1992 HCAPLUS
 - (11) Nissan Chemical Industries Ltd; JP 04204738 A 1992 HCAPLUS
- IT **311773-07-6P 311773-11-2P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(method for forming polyimide pattern using **photosensitive** polyimide compn.)
- RN 311773-07-6 HCAPLUS
- CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 1,3-disiloxanediamine, 2,2'-dithiobis[ethanamine], 3a,4,5,7a-tetrahydro-7-methyl-5-(tetrahydro-2,5-dioxo-3-furanyl)-1,3-isobenzofurandione and 2,4,8,10-tetraoxaspiro[5.5]undecane-3,9-dipropanamine (9CI) (CA INDEX

NAME)

CM 1

CRN 73003-90-4

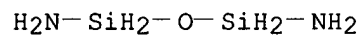
CMF C13 H12 O6



CM 2

CRN 71134-22-0

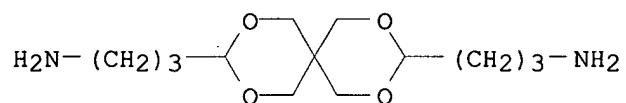
CMF H8 N2 O Si2



CM 3

CRN 21587-74-6

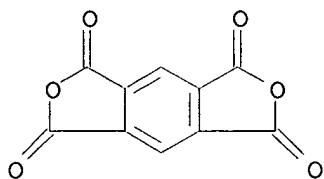
CMF C13 H26 N2 O4



CM 4

CRN 89-32-7

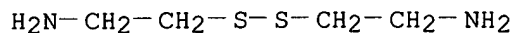
CMF C10 H2 O6



CM 5

CRN 51-85-4

CMF C4 H12 N2 S2



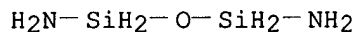
RN 311773-11-2 HCAPLUS

CN 4,8-Etheno-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone,
3a,4,4a,7a,8,8a-hexahydro-, polymer with 1,3-cyclohexanedimethanamine,
1,3-disiloxanediamine, 2,2'-dithiobis[ethanamine] and rel-
(3aR,3bS,6aS,7aR)-tetrahydro-1H-cyclopenta[1,2-c:3,4-c']difuran-
1,3,4,6(3aH)-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 71134-22-0

CMF H8 N2 O Si2

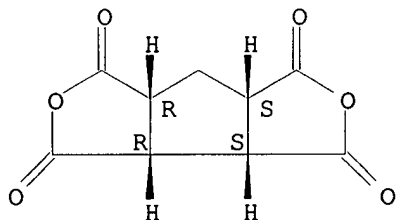


CM 2

CRN 4802-47-5

CMF C9 H6 O6

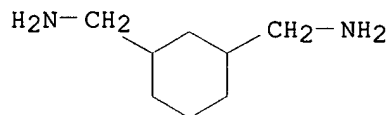
Relative stereochemistry.



CM 3

CRN 2579-20-6

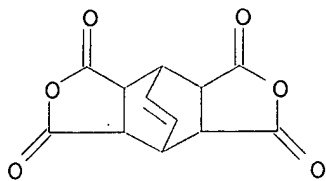
CMF C8 H18 N2



CM 4

CRN 1719-83-1

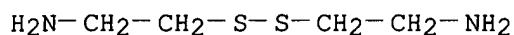
CMF C12 H8 O6



CM 5

CRN 51-85-4

CMF C4 H12 N2 S2



L16 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:241669 HCAPLUS

DN 132:286325

TI **Photosensitive** polysilazane composition and method of forming patterned layer using same

IN Nagahara, Tatsuro; Matsuo, Hideki; Aoki, Tomoko; Yamada, Kazuhiro

PA Tonen Corporation, Japan

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G03F007-075

ICS G03F007-004; H01L021-027; C08L083-16

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020927	A1	20000413	WO 1999-JP5498	19991005
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000181069	A2	20000630	JP 1999-283106	19991004
EP 1164435	A1	20011219	EP 1999-970175	19991005
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRAI JP 1998-282697 A 19981005

WO 1999-JP5498 W 19991005

AB The **photosensitive** polysilazane compn. has a polysilazane and a **light-sensitive acid-generating** agent. The compn. provides the patterned pos.-working polysilazane layer directly used as a photoresist.

ST **photosensitive** polysilazane compn pattern forming method photoresist

IT **Photoresists**

(**photosensitive polysilazane** compn. and method of forming patterned **polysilazane** film)

IT 614-45-9, tert-Butylperoxybenzoate 25155-25-3, .alpha.,.alpha.'-Bis(tert-butylperoxy)diisopropylbenzene **32169-90-7**, Poly[imino(dimethylsilylene)] 68510-93-0 77473-08-6, 3,3',4,4'-Tetra(tert-butylperoxycarbonyl)benzophenone **153340-09-1**

, Poly[imino(diphenylsilylene)]

RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive polysilazane** compn.)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Agency Of Industrial Science And Technology; JP 05132559 A 1993 HCAPLUS
- (2) Hitachi Ltd; JP 09230600 A 1997 HCAPLUS
- (3) Mitsubishi, K; JP 62222246 A 1987 HCAPLUS
- (4) Shin-Etsu Chemical Co Ltd; JP 60221470 A HCAPLUS
- (5) Shin-Etsu Chemical Co Ltd; US 4678688 A 1987 HCAPLUS
- (6) Toa, N; JP 01203476 A 1989 HCAPLUS
- (7) Tonen Corporation; JP 1192666 A 1999
- (8) Toshiba Corporation; KR 97076092 A
- (9) Toshiba Corporation; JP 1073925 A 1998
- (10) Toshiba Corporation; JP 1079381 A 1998

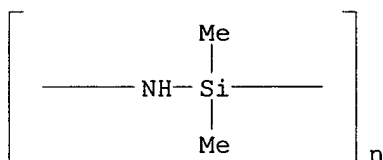
IT 32169-90-7, Poly[imino(dimethylsilylene)] 153340-09-1,

Poly[imino(diphenylsilylene)]

RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive polysilazane** compn.)

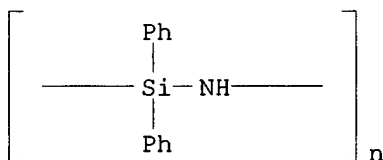
RN 32169-90-7 HCAPLUS

CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



RN 153340-09-1 HCAPLUS

CN Poly[imino(diphenylsilylene)] (9CI) (CA INDEX NAME)



L16 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:587968 HCAPLUS

DN 131:221197

TI Electrophotographic photoreceptor with surface protective layer made of Si compound

IN Tokutake, Shigeaki; Yamaguchi, Sadako

PA Minolta Camera Co., Ltd., Peop. Rep. China

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

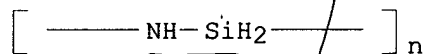
IC ICM G03G005-147

ICS G03G005-147

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11249330	A2	19990917	JP 1998-54901	19980306
AB	The title photoreceptor comprises an Al or its alloy conductive support coated with a <u>photosensitive layer</u> and a surface protective layer formed by coating a soln. contg. an organopolysilazane (R1R2SiNR3)n (R1-3 = H, C1-3 alkyl; n = 10-60) <u>on the photosensitive layer</u> followed by curing. The protective layer may be made of a compd. (SiO2)x(R1R2SiNR3)y (R1-3 = H, C1-3 alkyl; y/x < 0.1). The photoreceptor shows improved <u>anti-cracking properties</u> and high electrostatic properties even after exposure to <u>ozone</u> , and the protective layer exhibits high adhesion to the <u>photosensitive layer</u> .				
ST	electrophotog photoreceptor polysilazane surface protective layer				
IT	Electrophotographic photoconductors (photoreceptors) (electrophotog. photoreceptor with surface protective layer contg. polysilazane)				
IT	Silazanes RL: DEV (Device component use); USES (Uses) (silica-contg.; electrophotog. photoreceptor with surface protective layer contg. polysilazane)				
IT	149013-47-8, Poly[(imino)(silylene)] RL: DEV (Device component use); USES (Uses) (electrophotog. photoreceptor with surface protective layer contg. polysilazane)				
IT	149013-47-8, Poly[(imino)(silylene)] RL: DEV (Device component use); USES (Uses) (electrophotog. photoreceptor with surface protective layer contg. polysilazane)				
RN	149013-47-8 HCAPLUS				
CN	Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)				



L16 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1999:407182 HCAPLUS
 DN 131:94856
 TI Crosslinked polycarbonate, its manufacture, and electrophotographic photoreceptor containing it as binder
 IN Hikosaka, Takaaki
 PA Idemitsu Kosan Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 97 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G077-448
 ICS C08G064-42; C08G077-60; G03G005-05; C08G064-04
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11172003	A2	19990629	JP 1997-343057	19971212
AB	The crosslinked polycarbonate is manufd. by hydrosilylation of polycarbonates having a C:C linkage with Si compds. having .gtoreq.2 Si-H linkages in the presence of transition metal catalysts, Cl-contg.				

catalysts, and/or radicals. The crosslinked polycarbonate obtained by the above method is also claimed. The electrophotog. photoreceptor contains the above polycarbonate in a **photosensitive** layer. The photoreceptor shows improved abrasion resistance and durability in repeated use.

- ST electrophotog photoreceptor binder crosslinked polycarbonate hydrosilylation; abrasion resistance silyl crosslinked polycarbonate photoreceptor
- IT Electrophotographic photoconductors (photoreceptors)
(manuf. of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)
- IT Polycarbonates, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manuf. of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)
- IT Polysiloxanes, preparation
Polysiloxanes, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(polycarbonate-; manuf. of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)
- IT Polycarbonates, preparation
Polycarbonates, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(polysiloxane-; manuf. of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)
- IT 75-44-5DP, Phosgene, polymers with hydroxyphenylpropyl- or dimethylhydroxysilyl-terminated dimethylsilanediol-allylmethylsilanediol copolymer and dihydroxybiphenyl and bis(dimethylsilyl)benzene 80-05-7DP, 2,2-Bis(4-hydroxyphenyl)propane, polymer with trimethylsilyl-terminated diphenylsilanediol-methylsilanediol copolymer, bis(allylhydroxyphenyl)propane, and phosgene 92-88-6DP, 4,4'-Dihydroxybiphenyl, polymers with hydroxyphenylpropyl- or dimethylhydroxysilyl-terminated dimethylsilanediol-allylmethylsilanediol copolymer and phosgene and bis(dimethylsilyl)benzene 2488-01-9DP, 1,4-Bis(dimethylsilyl)benzene, polymers with hydroxyphenylpropyl- or dimethylhydroxysilyl-terminated dimethylsilanediol-allylmethylsilanediol copolymer and phosgene and dihydroxybiphenyl 24038-68-4DP, 2,2-Bis(3-phenyl-4-hydroxyphenyl)propane, polymers with hydroxyphenylpropyl- or dimethylhydroxysilyl-terminated dimethylsilanediol-allylmethylsilanediol copolymer and phosgene and bis(dimethylsilyl)benzene 31900-57-9DP, Trimethylsilyl and dimethylhydroxyphenylpropylsiloxylmethylsilyl terminated 155665-02-4DP, hydroxyphenylpropyl-terminated, polymers with dihydroxybiphenyl and phosgene and dimethylsilylbenzene 155904-19-1DP, Diphenylsilanediol-methylsilanediol copolymer, trimethylsilyl-terminated, polymer with bis(allylhydroxyphenyl)propane, bis(hydroxyphenyl)propane, and phosgene 229621-54-9P 229621-55-0P 229621-56-1P 229621-57-2P 229621-58-3P 229621-59-4P 229621-60-7P 229621-62-9P 229621-64-1P 229621-65-2P 229621-66-3P 229621-67-4P 229621-68-5P **229621-69-6P** 229621-71-0P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manuf. of silyl-crosslinked polycarbonate for binder of electrophotog. photoreceptor with improved abrasion resistance)
- IT **229621-69-6P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(manuf. of silyl-crosslinked polycarbonate for binder of electrophotog.
photoreceptor with improved abrasion resistance)

RN 229621-69-6 HCAPLUS

CN Carbonic dichloride, polymer with N-(dimethylsilyl)-1,1-
dimethylsilanamine, 4,4'-(1-methylethylidene)bis[phenol] and
4,4'-(1-methylethylidene)bis[2-(2-propenyl)phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 15933-59-2

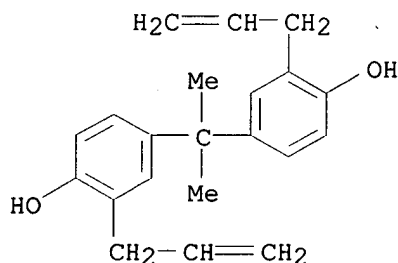
CMF C4 H15 N Si2

Me₂SiH-NH-SiHMe₂

CM 2

CRN 1745-89-7

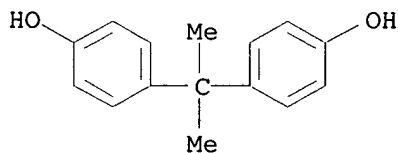
CMF C21 H24 O2



CM 3

CRN 80-05-7

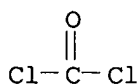
CMF C15 H16 O2



CM 4

CRN 75-44-5

CMF C C12 O



L16 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:271577 HCAPLUS

DN 130:289209

TI Polyimide composition for positive photoresist

IN Itatani, Hiroshi; Matsumoto, Shunichi

PA PI R & D Co., Ltd., Japan

SO PCT Int. Appl., 112 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM G03F007-039

ICS G03F007-022; G03F007-004; C08L079-08; C09D179-08; C08G073-10;

H05K003-28; H05K003-46; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9919771	A1	19990422	WO 1998-JP4577	19981012
	W: CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP	1024407	A1	20000802	EP 1998-947813	19981012
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	JP 1997-315781	A	19971013		
	JP 1997-320266	A	19971016		
	JP 1997-353987	A	19971117		
	JP 1997-353988	A	19971117		
	JP 1997-363044	A	19971125		
	JP 1997-363045	A	19971125		
	JP 1997-363378	A	19971126		
	JP 1997-365491	A	19971202		
	JP 1997-370187	A	19971222		
	JP 1998-31933	A	19980105		
	JP 1998-108410	A	19980316		
	WO 1998-JP4577	W	19981012		
AB	A photosensitive polyimide compn. is sol. in org. solvents, excellent in adhesiveness, heat resistance, mech. characteristics and flexibility, and is capable of exhibiting alkali-sol., highly sensitive pos. photoresist characteristics upon irradiation with light. The compn. comprises a photo-acid generator and a solvent sol. polyimide exhibiting pos. photosensitivity in the presence of the generator.				
ST	polyimide compn pos photoresist				
IT	Positive photoresists				
	(polyimide compn. for pos. photoresist)				
IT	<u>Polyimides</u> , uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(polyimide compn. for pos. photoresist)				
IT	222846-38-OP 222846-46-OP				
	RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(copolymer)				
IT	15499-84-OP				
	RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)				
	(polyimide compn. for pos. photoresist)				

IT 80180-96-7P, 3,3',4,4'-Benzophenonetetracarboxylic dianhydride-2,4-diaminotoluene-3,3'-dimethoxy-4,4'-diaminobiphenyl copolymer
 87182-96-5P, 2,2-Bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,2-benzenedicarboxylic acid dianhydride) copolymer 134096-63-2P 144279-09-4P 162735-41-3P
 177190-29-3P 177190-34-0P 186967-17-9P 222842-97-9P,
 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]propane-2,3-diaminodiphenyl ether copolymer
 222843-01-8P **222843-06-3P**, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-2,4-diaminotoluene-diaminosiloxane-3,4-diaminodiphenyl ether-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane block copolymer
 222843-27-8P, m-BAPS-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-9,9-bis(4-aminophenyl)fluorene-3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,5-diaminobenzoic acid block copolymer 222843-32-5P 222843-36-9P, 3,4,3',4'-Benzophenonetetracarboxylic Acid Dianhydride-4,4'-diaminodiphenylsulfide-3,4,3',4'-biphenyl tetracarboxylic Acid Dianhydride-3,3'-dihydroxybenzidine-m-BAPS block copolymer 222843-50-7P 222843-56-3P
 222843-63-2P 222843-70-1P 222843-77-8P 222843-82-5P 222843-88-1P
 222843-94-9P 222843-98-3P 222844-05-5P 222844-10-2P 222844-17-9P
 222844-25-9P 222844-32-8P 222844-44-2P 222844-51-1P 222844-59-9P
 222844-67-9P **222844-73-7P**, 3,3',4,4'-Biphenyltetracarboxylic dianhydride; diaminosilane; .gamma.-valerolactone; 3,4,3',4'-benzophenonetetracarboxylic dianhydride; 3,3'-dihydroxy-4,4'-diaminobiphenyl; 3,4'-diaminodiphenyl ether block copolymer 222844-82-8P
 222844-87-3P 222844-93-1P 222844-96-4P 222845-03-6P 222845-07-0P,
 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-3,3'-dinitro-4,4'-diaminodiphenyl-bis[4-(3-Aminophenyl)phenyl]sulfone copolymer
 222845-11-6P 222845-17-2P 222845-23-0P 222845-26-3P 222845-32-1P
 222845-38-7P, 3,3',4,4'-Biphenyltetracarboxylic acid anhydride-1,5-diaminoanthraquinone-2,2-bis[4-(3-aminophenoxy)phenyl]propane copolymer
 222845-43-4P 222845-53-6P 222845-58-1P 222845-63-8P 222845-68-3P,
 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-1,4-bis(3-aminopropyl)piperazine-bis[4-(3-aminophenoxy)phenyl]sulfone copolymer
 222845-73-0P 222845-77-4P 222845-83-2P 222845-89-8P 222845-95-6P
 222846-01-7P 222846-08-4P 222846-13-1P 222846-18-6P 222846-23-3P,
 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-bis-4-(3-aminophenoxy)phenylsulfone-2,2-bis-[4-(3-aminophenoxy)phenyl]hexafluoropropane copolymer 222846-30-2P 222846-54-0P 222846-63-1P 222846-79-9P
 222846-83-5P 222846-88-0P, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-2,2-ditrifluoromethylbenzidine-2,2-bis[4-(4-aminophenoxy)phenyl]propane-3,5-diaminobenzoic acid block copolymer
 222846-93-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyimide compn. for pos. photoresist)

IT 86-73-7, Fluorene

RL: RCT (Reactant); RACT (Reactant or reagent)

(polyimide compn. for pos. photoresist)

IT 83803-86-5 222843-16-5, m-BAPS-3,3'-dimethylbenzidine-4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(1,2-benzenedicarboxylic acid dianhydride) copolymer 222843-21-2, m-BAPS-bicyclo(2,2,2)-octa-7-ene-2,3,5,6-tetracarboxylic acid dianhydride-pyromellitic acid dianhydride copolymer 222843-41-6, 2,2-Bis[4-(4-aminophenoxy)phenyl]propane-3,4,3',4'-Biphenyltetracarboxylic dianhydride-3,5-diaminobenzoic acid-pyromellitic acid dianhydride-2,2'-bis(trifluoromethyl) benzidine block copolymer

RL: TEM (Technical or engineered material use); USES (Uses)

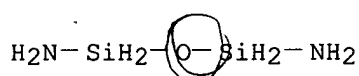
(polyimide compn. for pos. photoresist)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Fujitsu Ltd; JP 545882 A 1993
 - (2) Japan Synthetic Rubber Co Ltd; JP 08104808 A 1996 HCAPLUS
 - (3) Japan Synthetic Rubber Co Ltd; JP 844062 A 1996
 - (4) Nissan Chemical Industries Ltd; EP 424940 A HCAPLUS
 - (5) Nissan Chemical Industries Ltd; US 5288588 A HCAPLUS
 - (6) Nissan Chemical Industries Ltd; JP 03209478 A 1991 HCAPLUS
 - (7) Nitto Denko Corp; EP 502400 A HCAPLUS
 - (8) Nitto Denko Corp; JP 04363361 A 1992 HCAPLUS
 - (9) Sumitomo Bakelite Co Ltd; EP 459395 A HCAPLUS
 - (10) Sumitomo Bakelite Co Ltd; US 5449584 A HCAPLUS
 - (11) Sumitomo Bakelite Co Ltd; JP 446345 A 1992
 - (12) Toshiba Corp; JP 04284455 A 1992 HCAPLUS
 - (13) Ube Industries Ltd; JP 04110348 A 1992 HCAPLUS
- IT **222843-06-3P**, 3,4,3',4'-Biphenyltetracarboxylic acid dianhydride-3,4,3',4'-benzophenonetetracarboxylic acid dianhydride-2,4-diaminotoluene-diaminosiloxane-3,4-diaminodiphenyl ether-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane block copolymer
222844-73-7P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride; diaminosilane; .gamma.-valerolactone; 3,4,3',4'-benzophenonetetracarboxylic dianhydride; 3,3'-dihydroxy-4,4'-diaminobiphenyl; 3,4'-diaminodiphenyl ether block copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide compn. for pos. photoresist)
- RN 222843-06-3 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione], 1,3-disiloxanediamine, 4-methyl-1,3-benzenediamine, 4,4'-oxybis[1,2-benzenediamine] and 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine], block (9CI) (CA INDEX NAME)

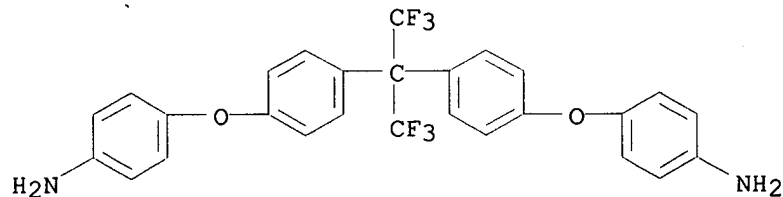
CM 1

CRN 71134-22-0
CMF H8 N2 O Si2



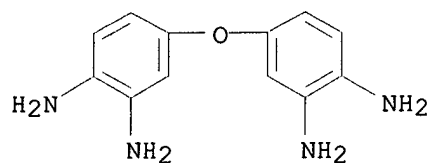
CM 2

CRN 69563-88-8
CMF C27 H20 F6 N2 O2



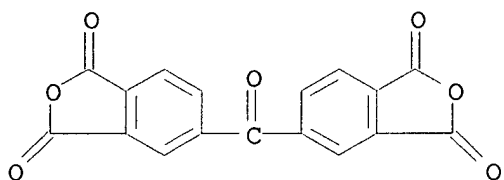
CM 3

CRN 2676-59-7
CMF C12 H14 N4 O



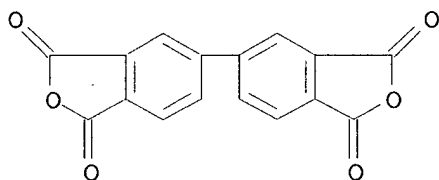
CM 4

CRN 2421-28-5
CMF C17 H6 O7



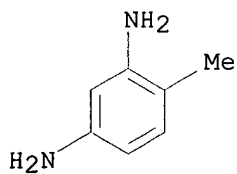
CM 5

CRN 2420-87-3
CMF C16 H6 O6



CM 6

CRN 95-80-7
CMF C7 H10 N2



RN 222844-73-7 HCAPLUS
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with

3-(4-aminophenoxy)benzenamine, 5,5'-carbonylbis[1,3-isobenzofurandione],
4,4'-diamino[1,1'-biphenyl]-3,3'-diol, dihydro-5-methyl-2(3H)-furanone and
silanediamine, block (9CI) (CA INDEX NAME)

CM 1

CRN 14044-99-6

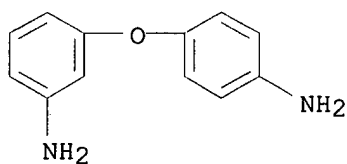
CMF H6 N2 Si

H₂N-SiH₂-NH₂

CM 2

CRN 2657-87-6

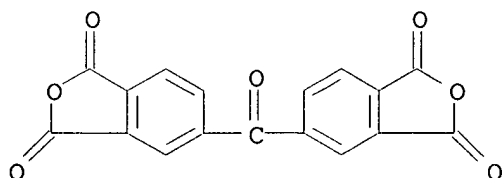
CMF C12 H12 N2 O



CM 3

CRN 2421-28-5

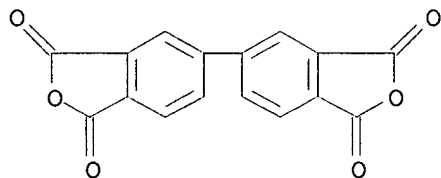
CMF C17 H6 O7



CM 4

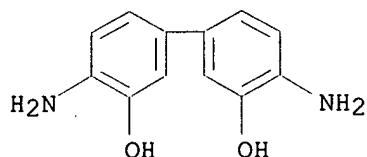
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CMF C16 H6 O6



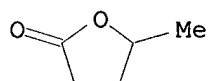
CM 5

CRN 2373-98-0
CMF C12 H12 N2 O2



CM 6

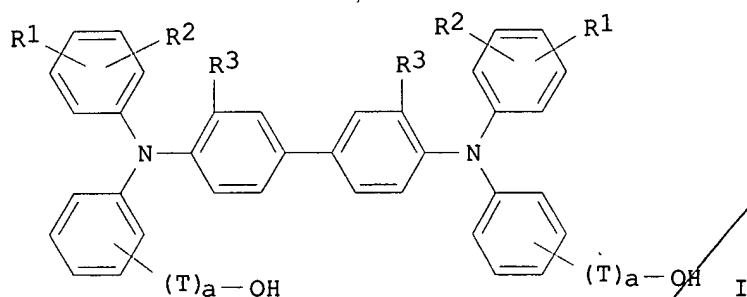
CRN 108-29-2
CMF C5 H8 O2



L16 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:157146 HCAPLUS
DN 130:259507
TI Electrophotographic photoreceptor, its manufacture, and image-forming apparatus
IN Koseki, Kazuhiro; Kamisaka, Tomozumi
PA Fuji Xerox Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03G005-147
ICS G03G005-147; G03G005-05; G03G005-06; G03G015-02
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 11065155	A2	19990305	JP 1997-217537	19970812
GI					



- AB The title photoreceptor comprises a conductive support coated with a **photosensitive** layer and a surface protective layer made of a 3-dimensionally crosslinked polymer from at least a charge-transporting compd. I (R_1 -3 = H, halo, C1-5 alkyl, C1-5 alkoxy, methyl- or ethyl-substituted amino; T = C1-10 divalent hydrocarbon which may be branched; a = 0 or 1) and an isocyanate compd. contg. F atom and .gtoreq.3 functional groups. The photoreceptor is manufd. by coating a soln. contg. the charge-transporting compd. and isocyanate compd. on the **photosensitive** layer formed on the support followed by crosslinking the compds. to form the protective layer. An image-forming app. including the photoreceptor is also claimed. The protective layer shows high mech. strength and durability in repeated use under strong environmental stress without adverse effects on the photoelec. properties of the photoreceptor.
- ST electrophotog/photoreceptor surface protective layer; charge transporting agent isocyanate crosslinked polymer; urethane polymer charge transporting agent electrophotog
- IT Electrophotographic photoconductors (photoreceptors)
(electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)
- IT Polyurethanes, preparation
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)
- IT 19717-79-4P, Chlorogallium phthalocyanine 63371-84-6P, Hydroxygallium phthalocyanine
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(charge-generating agent; electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)
- IT 65181-78-4 161114-55-2
RL: DEV (Device component use); USES (Uses)
(electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)
- IT 221390-25-6P 221390-28-9P 221390-31-4P
221390-34-7P 221390-37-0P 221390-39-2P 221390-42-7P
221390-45-0P 221390-48-3P 221390-51-8P
221390-54-1P 221390-57-4P
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)

IT 3468-11-9, 1,3-Diiminoisoindoline 13450-90-3, Gallium trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of chlorogallium phthalocyanine)

IT 221390-25-6P 221390-31-4P 221390-34-7P
221390-37-0P 221390-45-0P 221390-48-3P
221390-51-8P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(electrophotog. photoreceptor with crosslinked polymer surface layer comprising hydroxy group-contg. charge-transporting agent and isocyanate)

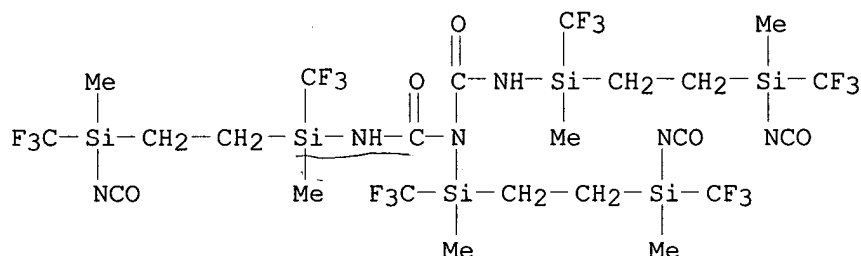
RN 221390-25-6 HCAPLUS

CN 2,4-Diaza-4,8-disilaoctanamide, 9,9,9-trifluoro-8-isocyanato-N,2-bis[[2-[isocyanatomethyl(trifluoromethyl)silyl]ethyl]methyl(trifluoromethyl)silyl]-5,8-dimethyl-3-oxo-5-(trifluoromethyl)-, polymer with 4,4'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[(3,4-dimethylphenyl)imino]]bis[benzenepropanol] (9CI) (CA INDEX NAME)

CM 1

CRN 221390-24-5

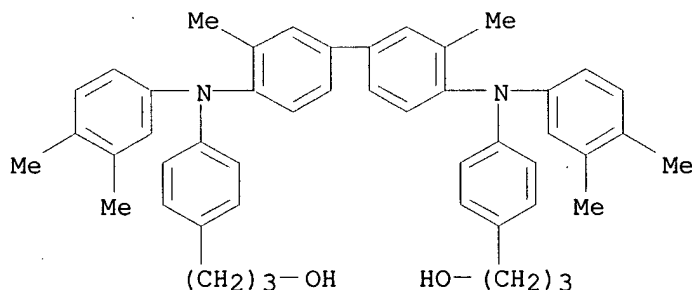
CMF C23 H32 F18 N6 O5 Si6



CM 2

CRN 210689-85-3

CMF C48 H52 N2 O2



RN 221390-31-4 HCAPLUS

CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-bis[[3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-10-[isocyanatomethyl(trifluoromethyl)silyl]decyl]methyl(trifl

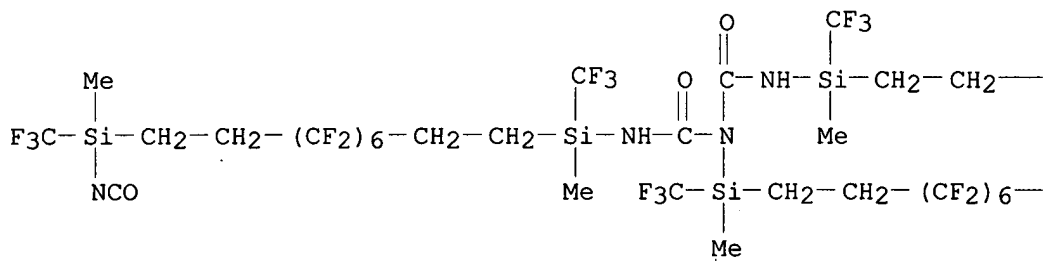
uoromethyl)silyl]-8,8,9,9,10,10,11,11,12,12,13,13,17,17,17-pentadecafluoro-16-isocyanato-5,16-dimethyl-3-oxo-5-(trifluoromethyl)-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI) (CA INDEX NAME)

CM 1

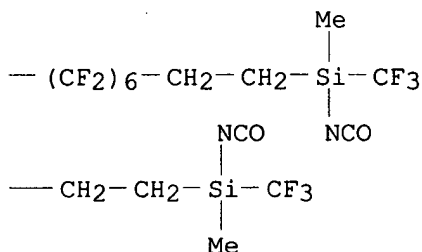
CRN 221390-30-3

CMF C47 H44 F54 N6 O5 Si6

PAGE 1-A



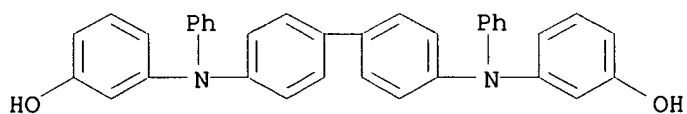
PAGE 1-B



CM 2

CRN 120358-46-5

CMF C36 H28 N2 O2

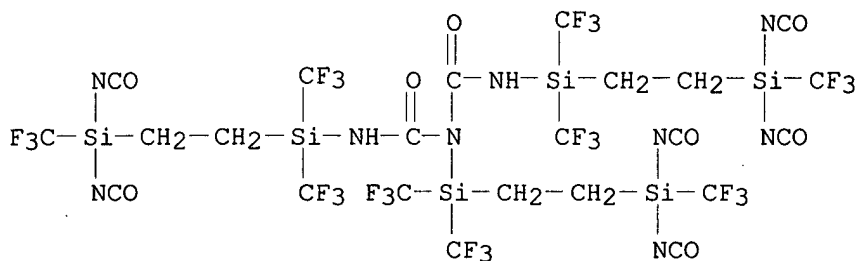


RN 221390-34-7 HCAPLUS

CN 2,4-Diaza-5,8-disilanonanamide, N,2-bis[[2-[diisocyanato(trifluoromethyl)silyl]ethyl]bis(trifluoromethyl)silyl]-9,9,9-trifluoro-8,8-diisocyanato-3-oxo-5,5-bis(trifluoromethyl)-, polymer with 4,4'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[(3,4-dimethylphenyl)imino]]bis[benzenepropanol] (9CI) (CA INDEX NAME)

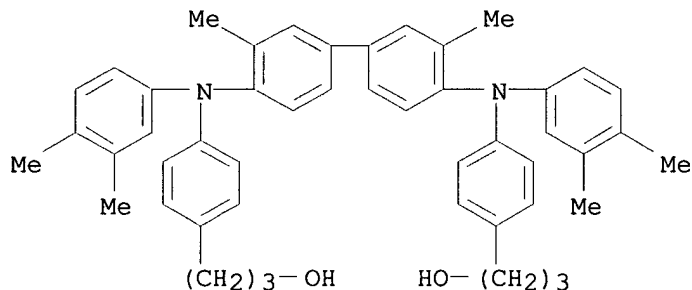
CM 1

CRN 221390-33-6
CMF C23 H14 F27 N9 O8 Si6



CM 2

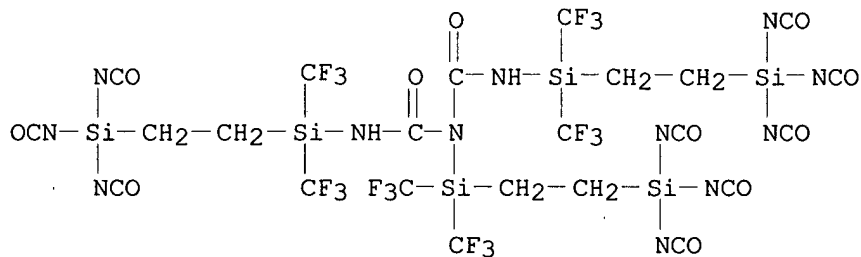
CRN 210689-85-3
CMF C48 H52 N2 O2



RN 221390-37-0 HCAPLUS
CN 5,7-Diaza-1,4-disilaooctan-8-amide, N,7-bis[bis(trifluoromethyl)[2-(triisocyanatosilyl)ethyl]silyl]-1,1,1-triisocyanato-6-oxo-4,4-bis(trifluoromethyl)-, polymer with 4,4'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[(3,4-dimethylphenyl)imino]]bis[benzenepropanol] (9CI) (CA INDEX NAME)

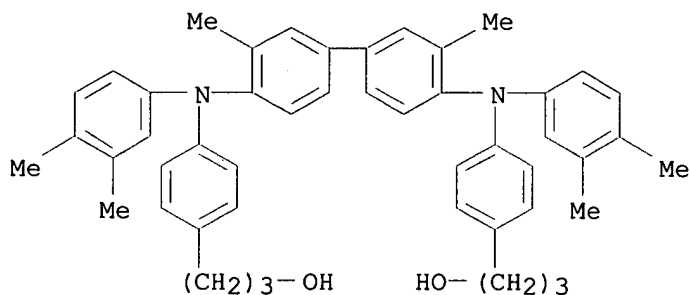
CM 1

CRN 221390-36-9
CMF C23 H14 F18 N12 O11 Si6



CM 2

CRN 210689-85-3
CMF C48 H52 N2 O2

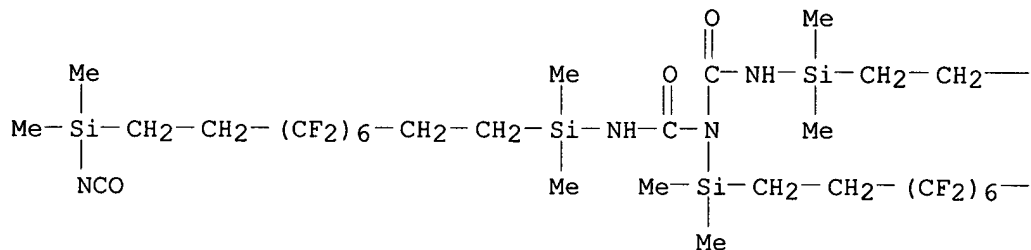


RN 221390-45-0 HCAPLUS
CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-bis[[3,3,4,4,5,5,6,6,7,7,8,8-dodecafluoro-10-(isocyanatodimethylsilyl)decyl]dimethylsilyl]-8,8,9,9,10,10,11,11,12,12,13,13-dodecadecafluoro-16-isocyanato-5,5,16-trimethyl-3-oxo-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI) (CA INDEX NAME)

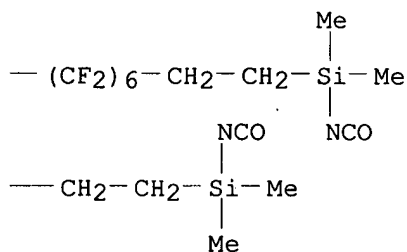
CM 1

CRN 221390-44-9
CMF C47 H62 F36 N6 O5 Si6

PAGE 1-A

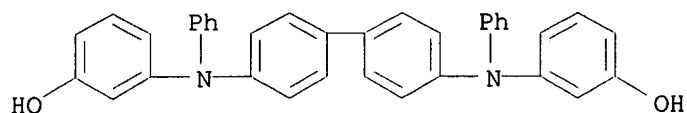


PAGE 1-B



CM 2

CRN 120358-46-5
CMF C36 H28 N2 O2

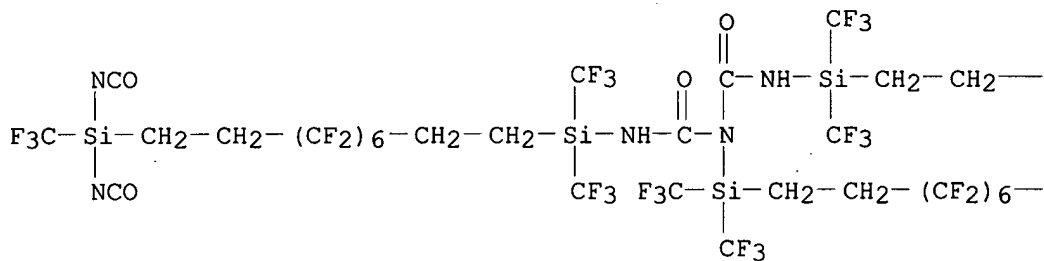


RN 221390-48-3 HCAPLUS
 CN 2,4-Diaza-5,16-disilaheptadecanamide, N,2-bis[[10-[diisocyanato(trifluoromethyl)-3,3,4,4,5,5,6,6,7,7,8,8-dodecafluorosilyl]decyl]bis(trifluoromethyl)silyl]-8,8,9,9,10,10,11,11,12,12,13,13,17,17,17-pentadecafluoro-16,16-diisocyanato-3-oxo-5,5-bis(trifluoromethyl)-, polymer with 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(phenylimino)]bis[phenol] (9CI) (CA INDEX NAME)

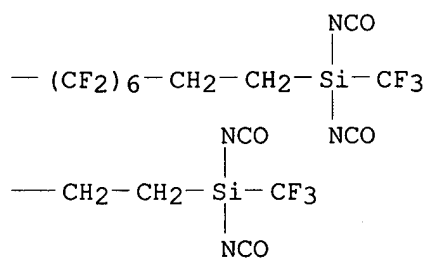
CM 1

CRN 221390-47-2
 CMF C47 H26 F63 N9 O8 Si6

PAGE 1-A



PAGE 1-B

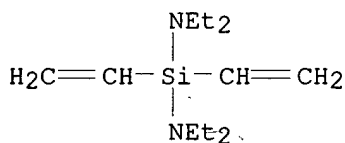


CM 2

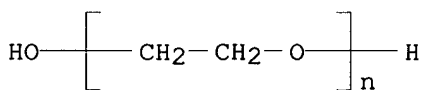
CRN 120358-46-5
 CMF C36 H28 N2 O2

L16 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:224415 HCAPLUS
 DN 128:263822
 TI Poly(siloxymethylene glycol) as a new water soluble electron-beam resist
 AU Nagasaki, Yukio; Kato, Masao; Aoki, Hidetoshi; Tokuda, Takashi
 CS Materials Science Department, Science University of Tokyo, Noda, 278,
 Japan
 SO Polymer Preprints (American Chemical Society, Division of Polymer
 Chemistry) (1998), 39(1), 467-468
 CODEN: ACPPAY; ISSN: 0032-3934
 PB American Chemical Society, Division of Polymer Chemistry
 DT Journal
 LA English
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 37
 AB Poly(divinylsiloxymethylene glycol) (PVSE) water sol. electron-beam resist
 show very good lithog. characteristics. A 1 mm pattern was obtained at a
 very low electron-beam exposure (2.4 .mu.C/cm2) which was developed by
 cold water, thus retaining high durability against O2 reactive ion
 etching. PVSE also worked as a fairly **sensitive** neg. UV
photoresist when the polymer was coupled with
 tetramethylolmethanetetra(3-mercaptopropionate) crosslinker and benzoin Me
 ether sensitizer.
 ST vinylsiloxymethylene glycol polymer electron beam resist; lithog
 photoresist vinylsiloxymethylene glycol polymer; water soluble electron
 resist polysiloxymethylene glycol
 IT Etching
 (plasma; poly(siloxymethylene glycol) new water sol. electron-beam
 resist)
 IT Electron beam resists
 (poly(siloxymethylene glycol) new water sol. electron-beam resist)
 IT Photoresists
 (poly(siloxymethylene glycol) new water sol. electron-beam resist and
 photoresist)
 IT Polysiloxanes, properties
 Polysiloxanes, properties
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (polyoxyalkylene-; poly(siloxymethylene glycol) new water sol.
 electron-beam resist)
 IT Polysiloxanes, properties
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (polyoxymethylene-; poly(siloxymethylene glycol) new water sol.
 electron-beam resist)
 IT Polyoxyalkylenes, properties
 Polyoxyalkylenes, properties
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (polysiloxane-; poly(siloxymethylene glycol) new water sol.
 electron-beam resist)
 IT 7575-23-7
 RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinking agent; poly(siloxymethylene glycol) new water sol.
 electron-beam resist and photoresist)
 IT 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (plasma; poly(siloxymethylene glycol) new water sol. electron-beam

resist)
 IT 181177-81-1, Bis(diethylamino)divinylsilane-poly(ethylene oxide)
 copolymer
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (poly(siloxymethylene glycol) new water sol. electron-beam resist)
 IT 3524-62-7, Benzoin methyl ether
 RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitizer; poly(siloxymethylene glycol) new water sol. electron-beam
 resist and photoresist)
 IT 181177-81-1, Bis(diethylamino)divinylsilane-poly(ethylene oxide)
 copolymer
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (poly(siloxymethylene glycol) new water sol. electron-beam resist)
 RN 181177-81-1 HCAPLUS
 CN Silanediimine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with
 .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX
 NAME)
 CM 1
 CRN 127410-30-4
 CMF C12 H26 N2 Si



CM 2
 CRN 25322-68-3
 CMF (C2 H4 O)_n H2 O
 CCI PMS



L16 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:184513 HCAPLUS
 DN 128:263956
 TI Patterning of insulating film and **photosensitive** composition
 containing silicon polymers therefor
 IN Mikoshiba, Satoshi; Hayase, Shuji; Nakano, Yoshihiko; Kawada, Rikako
 PA Toshiba Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 27 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01L021-312
 ICS C08L083-16; G03F007-075; H01L021-027; C08G077-62

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10079381	A2	19980324	JP 1996-233199	19960903
	US 6004730	A	19991221	US 1997-921613	19970902
PRAI	JP 1996-233199		19960903		

no PAG

AB A pattern of an insulating film, useful for semiconductor devices, liq. crystal displays, etc., is formed by (1) coating a substrate with a photosensitive compn. contg. a polymer comprising a monomer unit (SiR1R2NR3) [I; R1 - R3 = H, (un)substituted alkyl, (un)substituted aryl] and a polymer comprising a monomer unit (SiR4R5) [II; R4 - R5 = H, (un)substituted alkyl, (un)substituted aryl], (2) selectively exposing the film to light and developing, and (3) heating the resulting film pattern. The combination of the Si-contg. polymer may be (a) a polymer comprising II and polymer comprising a monomer unit (SiR6R7) [III; R6 = H, (un)substituted alkyl, (un)substituted aryl, siloxane bond], (b) a polymer comprising I, a polymer comprising II, and a polymer comprising III, or (c) a polymer comprising I and a polymer comprising II. In the patterning the film may be heated prior to development. The photosensitive compn. is developable with alkalis, and provides an insulating film having low dielec. const.

ST insulating film patterning photosensitive silicon polymer; polysiloxane alkali developable photoresist insulating film; polysilazane alkali developable photoresist insulating film; polysilane alkali developable photoresist insulating film

IT Dielectric films

Photoresists

(alkali-developable photoresists contg. polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)

IT Polysilanes

Polysiloxanes, uses

Silazanes

RL: TEM (Technical or engineered material use); USES (Uses)

(alkali-developable photoresists contg. polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)

IT Silsesquioxanes

RL: TEM (Technical or engineered material use); USES (Uses)

(hydrogen; alkali-developable photoresists contg. polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)

IT 28883-63-8, Poly(dimethylsilylene) 29386-52-5 30107-43-8 31324-77-3

51176-28-4, Poly(diphenylsilylene) 76188-55-1,

Poly(methylphenylsilylene) 95584-36-4, Poly(phenylsilylene) 99936-07-9

103728-41-2, Poly[imino(phenylsilylene)] 149013-47-8,

Poly[(imino)(silylene)] 153315-81-2 159655-38-6

RL: TEM (Technical or engineered material use); USES (Uses)

(alkali-developable photoresists contg. polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)

IT 103728-41-2, Poly[imino(phenylsilylene)] 149013-47-8,

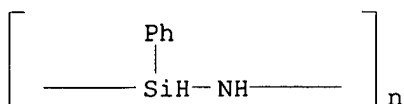
Poly[(imino)(silylene)]

RL: TEM (Technical or engineered material use); USES (Uses)

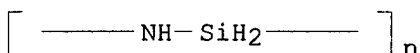
(alkali-developable photoresists contg. polysilazanes, polysilanes, and/or polysiloxanes for patterning of insulating film)

RN 103728-41-2 HCAPLUS

CN Poly[imino(phenylsilylene)] (9CI) (CA INDEX NAME)



RN 149013-47-8 HCAPLUS
 CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L16 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:626645 HCAPLUS
 DN 127:324327
 TI Water-soluble silicon containing polymer resist
 AU Aoki, Hidetoshi; Tokuda, Takashi; Nagasaki, Yukio; Kato, Masao
 CS R & D Center, Hokushin Corporation, Yokohama, 230, Japan
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1997), 35(14),
 2827-2833
 CODEN: JPACEC; ISSN: 0887-624X
 PB Wiley
 DT Journal
 LA English
 CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 35
 AB Poly(divinylsiloxymethylene glycol), which consists of alternating oligo
 (ethylene glycol)s (MW = 300) and divinylsiloxanes were prep'd. by a
 polycondensation reaction (Mn = 6500-9300, Mw/Mn = 2.01-2.27). The
 obtained polymer (PVSE300) showed a lower crit. soln. temp. (LCST) at
 10.5.degree.C, meaning that the polymer was sol. in water below the LCST.
 The glass transition temp. (Tg) and onset temp. of degrdn. (Td) of the
 PVSE300 were -72.5 and +317.5.degree.C, resp. The hydrolytic stability of
 the PVSE300 in aq. media was also exam'd. and it was found that PVSE300 was
 fairly stable in cold water. The lithog. characteristics of PVSE300 were
 exam'd. against UV and electron-beam (EB) exposure and it was found that
 the PVSE300 film showed a neg. character when developed by cold water.
 The **photosensitivity** parameter, Dg50, which denotes the dose at
 half remaining film thickness after development, against EB exposure was
 extremely high (1.0 .mu.C/cm2) when a probe current and an accelerating
 voltage was 100 pA and 20 kV, resp. A high durability for O2 reactive ion
 etching (O2 RIE) was also obs'd. The characteristics of PVSE300 against
 photoirradn. were also exam'd.
 ST water soluble silicon contg polymer resist; polycondensation reaction
 oligoethylene glycol diethylamino divinylsilane
 IT Sputtering
 (etching, reactive; high durability of water-sol. silicon contg.
 polymer resist for O2 reactive ion etching)
 IT Crosslinking
 (photochem.; photocrosslinking reaction of water-sol. silicon contg.
 polymer resist)
 IT Photolysis
 (photolysis of water-sol. silicon contg. polymer resist)
 IT Etching
 (sputter, reactive; high durability of water-sol. silicon contg.

polymer resist for O2 reactive ion etching)

IT Polyoxyalkylenes, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis of water-sol. silicon contg. polymer resist by
 polycondensation reaction between oligo(ethylene glycol) and
 bis(diethylamino)divinylsilane)

IT Condensation reaction
 Electron beam lithography
 Electron beam resists
 Photoresists
 Polymerization
 (water-sol. silicon contg. polymer resist)

IT 7575-23-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; photocrosslinking reaction of water-sol. silicon
 contg. polymer resist)

IT 7782-44-7, Oxygen, processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (high durability of water-sol. silicon contg. polymer resist for O2
 reactive ion etching)

IT 3524-62-7, Benzoinmethylether
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (sensitizer; photocrosslinking reaction of water-sol. silicon contg.
 polymer resist)

IT 127410-30-4P
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
 RACT (Reactant or reagent)
 (synthesis of water-sol. silicon contg. polymer resist by
 polycondensation reaction between oligo(ethylene glycol) and
 bis(diethylamino)divinylsilane)

IT 109-89-7, Diethylamine, reactions 1745-72-8, Divinyldichlorosilane
 25322-68-3, OEG300
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis of water-sol. silicon contg. polymer resist by
 polycondensation reaction between oligo(ethylene glycol) and
 bis(diethylamino)divinylsilane)

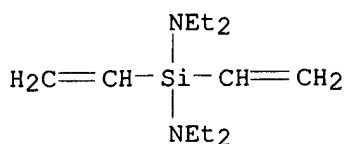
IT **181177-81-1P**
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (water-sol. silicon contg. polymer resist)

IT **181177-81-1P**
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (water-sol. silicon contg. polymer resist)

RN 181177-81-1 HCAPLUS
 CN Silanediamine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with
 .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX
 NAME)

CM 1

CRN 127410-30-4
 CMF C12 H26 N2 Si

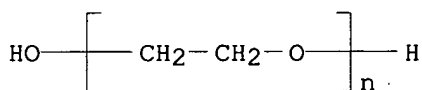


CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



L16 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:51116 HCAPLUS

DN 126:118497

TI Poly(divinylsiloxymethylene glycol). Synthesis and photoresist characteristics

AU Aoki, Hidetoshi; Tokuda, Takashi; Nagasaki, Yukio; Kato, Masao

CS R & D Center, Hokushin Corporation, Yokohama, 230, Japan

SO Macromolecular Rapid Communications (1997), 18(1), 31-36

CODEN: MRCOE3; ISSN: 1022-1336

PB Huethig & Wepf

DT Journal

LA English

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 74

AB Poly(siloxymethylene glycol) with pendent vinyl groups (PVSE) was synthesized by polycondensation of oligoethylene glycol (MW = 300) and (Et₂N)₂Si(CH₂CH)₂. PVSE300 thus obtained is sol. in cold water. The PVSE300 coupled with a polythiol compd. shows properties of a neg. working photoresist. A neg. tone image was obtained by development with water at 4.degree.. PVSE300 is a new type of Si-contg. polymer resist which can be developed by water.

ST polysiloxymethylene glycol prepn photoresist crosslinker
photosensitizer

IT Crosslinking agents

(photochem. for vinyl group-contg. poly(siloxymethylene glycol))

IT Polymerization catalysts

(photopolymer.; for vinyl group-contg. poly(siloxymethylene glycol))

IT Polysiloxanes, preparation

Polysiloxanes, preparation

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; prepn. and photoresist properties of vinyl group-contg. poly(siloxymethylene glycol))

IT Polysiloxanes, preparation

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

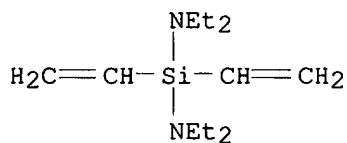
(polyoxymethylene-; prepn. and photoresist properties of vinyl group-contg. poly(siloxymethylene glycol))

- IT Polyoxyalkylenes, preparation
Polyoxyalkylenes, preparation
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polysiloxane-; prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- IT Negative photoresists
Photoimaging materials
(prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- IT 2150-02-9, Bis(2-mercaptoethyl) ether 7575-23-7, Pentaerythritol tetrakis(3-mercaptopropionate)
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. crosslinking agent; prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- IT 119-61-9, Benzophenone, uses 3524-62-7, Benzoin methyl ether
RL: CAT (Catalyst use); USES (Uses)
(photosensitizer; prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- IT 181177-81-1P, Bis(diethylamino)divinylsilane-poly(ethylene oxide) copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- IT 181177-81-1P, Bis(diethylamino)divinylsilane-poly(ethylene oxide) copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(prepn. and photoresist properties of vinyl group-contg. poly(siloxyethylene glycol))
- RN 181177-81-1 HCAPLUS
- CN Silanediimine, 1,1-diethenyl-N,N,N',N'-tetraethyl-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 127410-30-4

CMF C12 H26 N2 Si

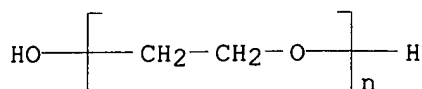


CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

CCI PMS



L16 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:14953 HCAPLUS

DN 126:52856

TI **Photosensitive** silyl polyimide composition

IN Kato, Hideto; Toyoda, Satoshi

PA Shinetsu Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-075

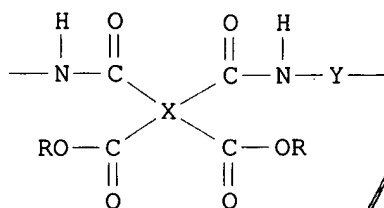
ICS C08K005-3432; C08K005-3445; C08L079-08; G03F007-004; G03F007-038

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

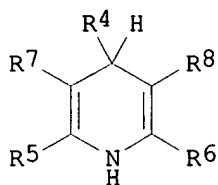
Section cross-reference(s): 37, 76

FAN.CNT 1

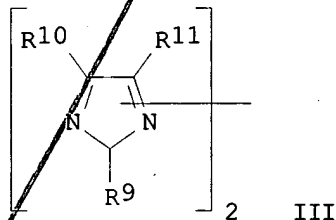
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08254831	A2	19961001	JP 1995-83365	19950315
GI					



I



II



2 III

AB The compn. contains a polyimide precursor with wt. av. mol. wt. 20,000-100,000 having a repeating unit I (X = tetravalent org. group; Y = divalent org. group; R, R0 = SiR1R2R3; R1-3 = C1-8 monovalent org. group, H), a dihydropyrimidine compd. II [R4 = (substituted) hydrocarbon, R5-6 = alkyl; R7-8 = COOR12, COR12, CN; R12 = alkyl], and hexaarylbiimidazole compd. III [R9-11 = (substituted) aryl]. The compn. shows high sensitivity and heat resistance and is useful for protective layer of elec. parts.

ST silyl polyimide resist hydroxyridine compd; imidazole compd polyimide resist

IT Positive photoresists

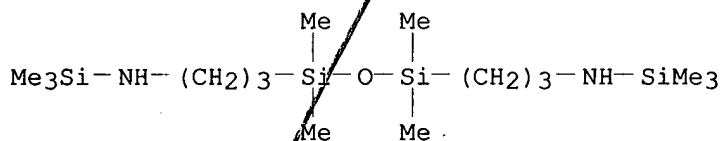
(photosensitive silyl polyimide compn. contg. dihydropyridine

compd. and hexaarylbiimidazole compd.)
 IT Polyimides, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photosensitive silyl polyimide compn. contg dihydropyridine
 compd. and hexaarylbiimidazole compd.)
 IT 7189-82-4 21829-25-4, Nifedipine
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material
 use); USES (Uses)
 (photosensitive silyl polyimide compn. contg. dihydropyridine
 compd. and hexaarylbiimidazole compd.)
 IT 151565-11-6P 151565-13-8P 184587-03-9P
 RL: PNU (Preparation, unclassified); BOF (Polymer in formulation); TEM
 (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photosensitive silyl polyimide compn. contg. dihydropyridine
 compd. and hexaarylbiimidazole compd.)
 IT 151565-11-6P 151565-13-8P 184587-03-9P
 RL: PNU (Preparation, unclassified); POF (Polymer in formulation); TEM
 (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photosensitive silyl polyimide compn. contg. dihydropyridine
 compd. and hexaarylbiimidazole compd.)
 RN 151565-11-6 HCAPLUS
 CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with
 N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and
 N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-
 trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-10-5

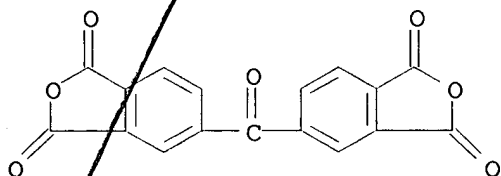
CMF C16 H44 N2 O Si4



CM 2

CRN 2421-28-5

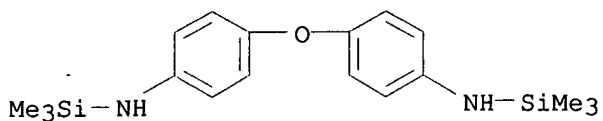
CMF C17 H6 O7



CM 3

CRN 1571-54-6

CMF C18 H28 N2 O Si2



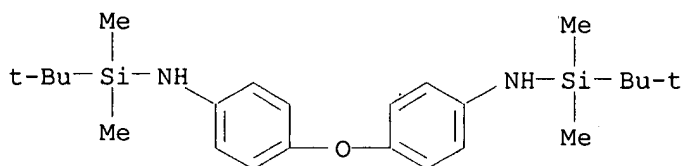
RN 151565-13-8 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

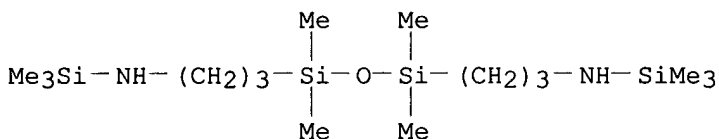
CMF C24 H40 N2 O Si2



CM 2

CRN 151565-10-5

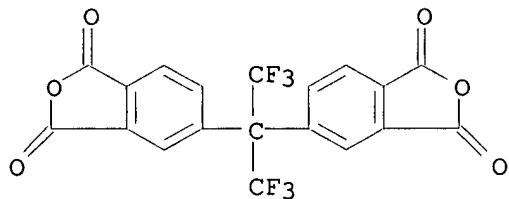
CMF C16 H44 N2 O Si4



CM 3

CRN 1107-00-2

CMF C19 H6 F6 O6



RN 184587-03-9 HCAPLUS

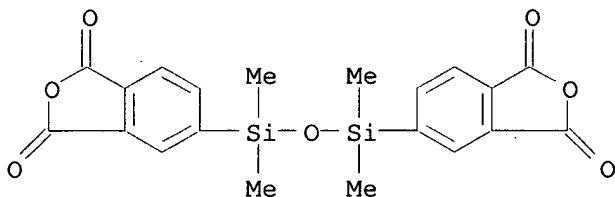
CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with

N,N'-(methylenedi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and
 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1,3-isobenzofurandione]
 (9CI) (CA INDEX NAME)

CM 1

CRN 42297-28-9

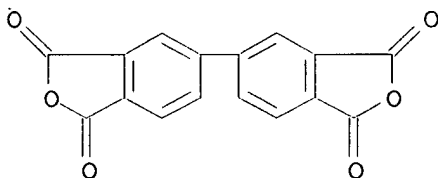
CMF C20 H18 O7 Si2



CM 2

CRN 2420-87-3

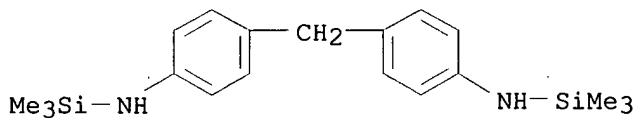
CMF C16 H6 O6



CM 3

CRN 1767-02-8

CMF C19 H30 N2 Si2

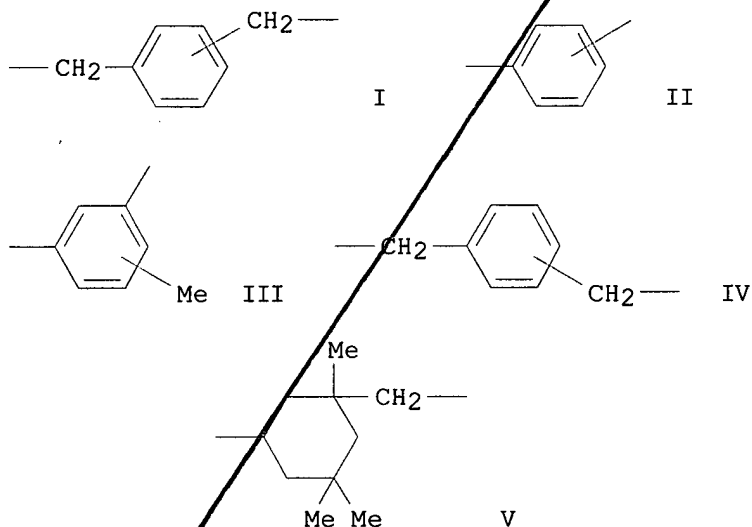


L16 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:417620 HCAPLUS
 DN 125:71972
 TI Waterless lithographic original plate
 IN Ishida, Yutaka; Isono, Masanao; Ikeda, Norimasa
 PA Toray Industries, Japan
 SO Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-00
 ICS G03F007-027; G03F007-038; G03F007-075; G03F007-085

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08082921	A2	19960326	JP 1994-216260	19940909
GI					



AB The title plate comprises a substrate with coatings of a **photosensitive** layer and an ink-repellent layer formed by crosslinking-hardening silicone rubber compn. contg. a polyorganosiloxane 100 and a condensation catalyst 0.001-0.5 parts. The **photosensitive** layer may contain [R1OCH2CH(OH)CH2] [R2OCH2CH(OH)CH2] [NHCHR5CH2(OCH2CHR6)nN[CH2CH(OH)CH2OR3] [CH2CH(OH)CH2OR4] and/or [R7OCH2CH(OH)CH2] [R8OCH2CH(OH)CH2]NXN[CH2CH(OH)CH2OR9] [CH2CH(OH)CH2OR10] [R1-4, R7-10 = H, (un)substituted C1-20 acyl, (meth)acryloyl; R5, R6 = H, C1-20 alkyl; n = 1-50; X = I, II, (CH2)m (m = 1-20), III, IV, V]. The plate shows good image reproducibility, ink repellency, scratch resistance, and printing durability. Thus, an Al substrate coated with a primer layer and a **photopolymerizable photosensitive** layer was coated with a compn. contg. silanol-terminated dimethylpolysiloxane, ethyltriacetoxysilane, and dibutyltin diacetate and heat-dried to form a silicone rubber layer to give a lithog. original plate.

ST waterless lithog plate silicone rubber; polyorganosiloxane condensation catalyst lithog plate; ink repellent layer lithog plate

IT Rubber, silicone

RL: DEV (Device component use); USES (Uses)

(waterless lithog. original plate with ink-repellent silicone rubber layer contg. controlled amt. of crosslinking catalyst)

IT Urethane polymers, preparation

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(polyester-, waterless lithog. original plate with ink-repellent silicone rubber layer contg. controlled amt. of crosslinking catalyst)

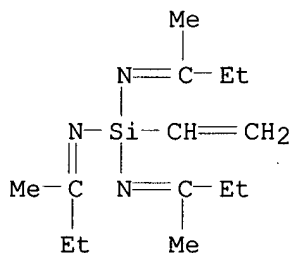
IT Lithographic plates

(waterless, waterless lithog. original plate with ink-repellent

silicone rubber layer contg. controlled amt. of crosslinking catalyst)
 IT 56-36-0, Tributyltin acetate 77-58-7 1067-33-0, Dibutyltin diacetate
 3087-37-4, Tetrapropyl titanate 4731-77-5, Dibutyltin octanoate
 5128-29-0, Tetrastearyl titanate 5593-70-4 7440-32-6D, Titanium,
 derivs 15796-28-8 19443-16-4
 RL: CAT (Catalyst use); USES (Uses)
 (waterless lithog. original plate with ink-repellent silicone rubber
 layer contg. controlled amt. of crosslinking catalyst)
 IT 156121-22-1P, Dimethylsilanediol-ethyltriacetoxysilane copolymer
178441-05-9P
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (waterless lithog. original plate with ink-repellent silicone rubber
 layer contg. controlled amt. of crosslinking catalyst)
 IT **178441-05-9P**
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (waterless lithog. original plate with ink-repellent silicone rubber
 layer contg. controlled amt. of crosslinking catalyst)
 RN 178441-05-9 HCAPLUS
 CN Silanediol, dimethyl-, polymer with 1-ethenyl-N,N',N''-tris(1-
 methylpropylidene)silanetriamine (9CI) (CA INDEX NAME)

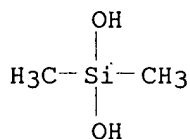
CM 1

CRN 178441-04-8
 CMF C14 H27 N3 Si



CM 2

CRN 1066-42-8
 CMF C2 H8 O2 Si

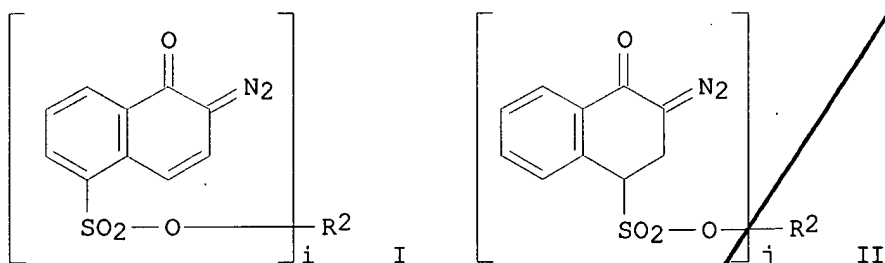


L16 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1995:997474 HCAPLUS
 DN 124:131542
 TI **Photosensitive** resin composition and method for forming
 patterned polyimide film

IN Kato, Hideto; Toyoda, Satoshi
 PA Shinetsu Chem Ind Co., Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-037
 ICS C08K005-41; C08L079-08; G02F001-1337; G03F007-023; G03F007-075;
 G03F007-40; H01L021-027; H01L021-312; H01L023-29; H01L023-31;
 H05K003-28
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07248626	A2	19950926	JP 1995-26196	19950120
	US 5573886	A	19961112	US 1995-375837	19950120
PRAI	JP 1994-21951		19940121		
OS	MARPAT 124:131542				
GI					



AB The **photosensitive** resin compn. comprises a diazoquinone compd.
 I or II (R2 = C1-50 org. group; i, j = 1-7) and a phenol novolak resin.
 The process comprises coating a substrate with said compn. to form a film,
 drying, exposing, developing an alk. soln., and hardening the film. The
photosensitive resin compn. can be developed with an alk. aq.
 soln. without decreasing a film thickness of the film.

ST diazoquinone compd **photosensitive** resin compn; polyimide film
photosensitive resin compn

IT Polyamic acids
 Polyimides, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**photosensitive** resin compn. and method for forming patterned
 polyimide film)

IT Phenolic resins, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (novolak, **photosensitive** resin compn. and method for forming
 patterned polyimide film)

IT Resists
 (photo-, **photosensitive** resin compn. and method for
 forming patterned polyimide film)

IT 173194-53-1P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM
 (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (**photosensitive** resin compn. and method for forming patterned
 polyimide film)

IT 3770-97-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photosensitive resin compn. and method for forming patterned polyimide film)

IT 95-48-7, o-Cresol, uses 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer 83803-86-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photosensitive resin compn. and method for forming patterned polyimide film)

IT 173194-53-1P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photosensitive resin compn. and method for forming patterned polyimide film)

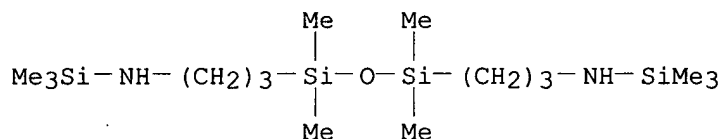
RN 173194-53-1 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-oxybis[benzenamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-10-5

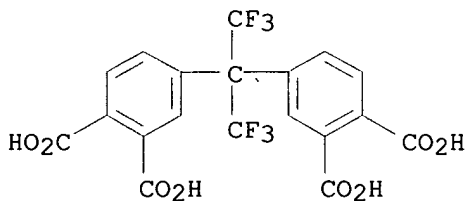
CMF C16 H44 N2 O Si4



CM 2

CRN 3016-76-0

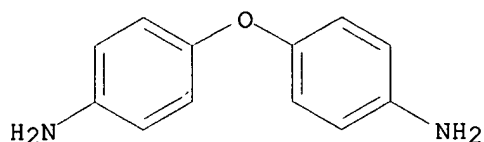
CMF C19 H10 F6 O8



CM 3

CRN 101-80-4

CMF C12 H12 N2 O



L16 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:795387 HCAPLUS

DN 123:325760

TI **Photosensitive** resin composition comprising a polyimide precursor and a **photosensitive** diazoquinone

IN Okinoshima, Hiroshige; Kato, Hideto

PA Shin-Etsu Chemical Co., Ltd., Japan

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

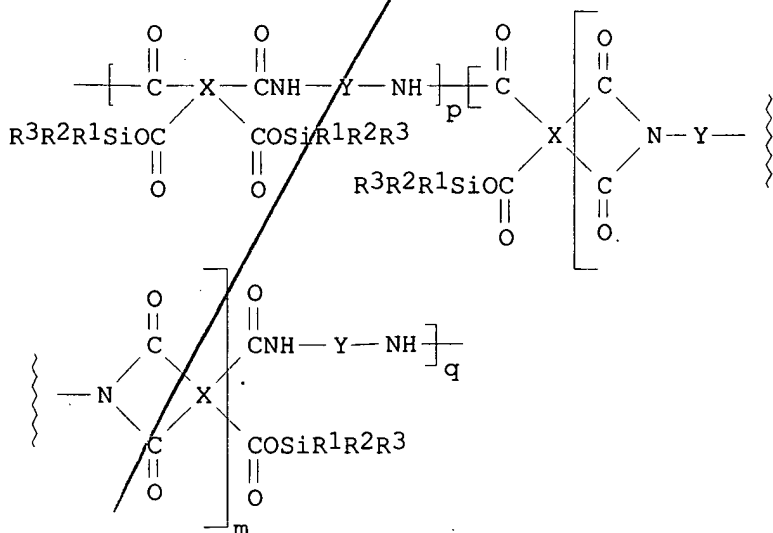
IC ICM G03F007-023

NCL 430191000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5441845	A	19950815	US 1994-197519	19940216
	JP 07319162	A2	19951208	JP 1993-51418	19930217
	JP 2787531	B2	19980820		
PRAI	JP 1993-51418		19930217		
OS	MARPAT 123:325760				
GI					



I

AB A **photosensitive** resin compn. which is adapted for protecting articles and particularly, electronic parts, therewith comprises a polyimide precursor of the following general formula, I (X = tetravalent

org. group; Y = divalent org. group; R1, R2, R3 = H, C1-10 org. group; p, q, m .gtoreq.1), and a **photosensitive** diazoquinone compd.

ST **photosensitive** resin polyimide precursor diazoquinone

IT Polyimides, uses

RL: DEV (Device component use); USES (Uses)

(**photosensitive** resin compn. comprising)

IT Coating materials

(heat-resistant, **photocurable**, **photosensitive** resin compn. comprising a polyimide precursor and a **photosensitive** diazoquinone)

IT Resists

(**photo-**, **photosensitive** resin compn. comprising a polyimide precursor and a **photosensitive** diazoquinone)

IT 5610-94-6, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, 4-benzoyl-1,2,3-benzenetriyl ester 38595-90-3, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, (1-methylethylidene)di-4,1-phenylene ester 110471-70-0, 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, methylphenyl ester **170153-45-4**, 2,2-Bis(3,4-benzenedicarboxylic acid anhydride)perfluoropropane-N,N'-bis(trimethylsilyl)-4,4'-diaminodiphenyl ether-4,4'-diaminodiphenyl ether copolymer **170153-46-5**

RL: DEV (Device component use); USES (Uses)

(**photosensitive** resin compn. comprising)

IT **170153-45-4**, 2,2-Bis(3,4-benzenedicarboxylic acid anhydride)perfluoropropane-N,N'-bis(trimethylsilyl)-4,4'-diaminodiphenyl ether-4,4'-diaminodiphenyl ether copolymer **170153-46-5**

RL: DEV (Device component use); USES (Uses)

(**photosensitive** resin compn. comprising)

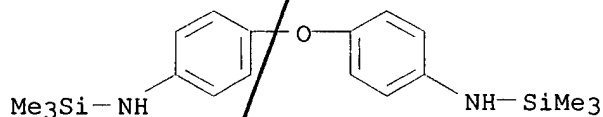
RN 170153-45-4 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-oxybis[benzenamine] and N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

CM 1

CRN 1571-54-6

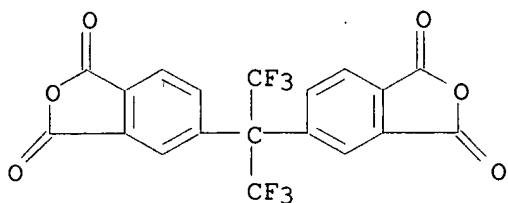
CMF C18 H28 N2 O Si2



CM 2

CRN 1107-00-2

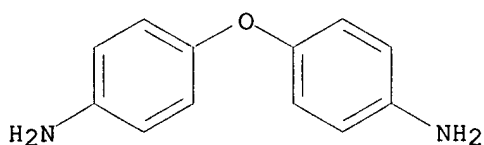
CMF C19 H6 F6 O6



CM 3

CRN 101-80-4

CMF C12 H12 N2 O



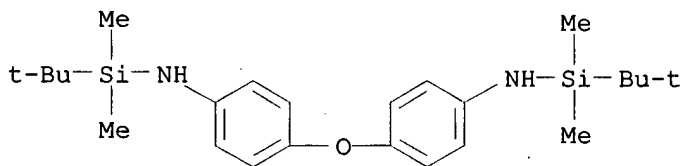
RN 170153-46-5 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with 4,4'-methylenebis[benzenamine], N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediy)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

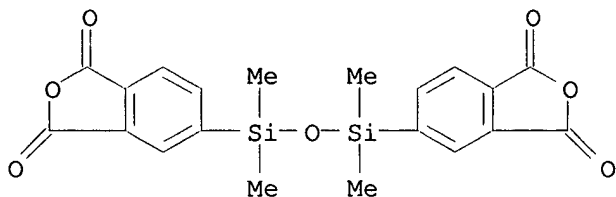
CMF C24 H40 N2 O Si2



CM 2

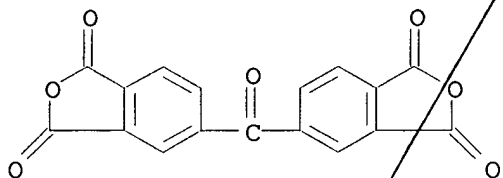
CRN 42297-28-9

CMF C20 H18 O7 Si2



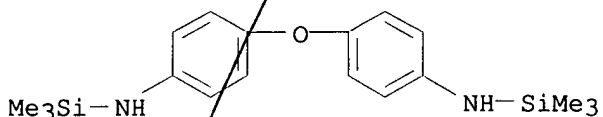
CM 3

CRN 2421-28-5
CMF C17 H6 O7



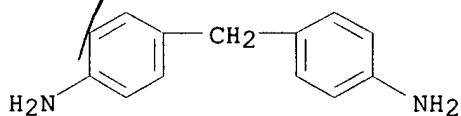
CM 4

CRN 1571-54-6
CMF C18 H28 N2 O Si2



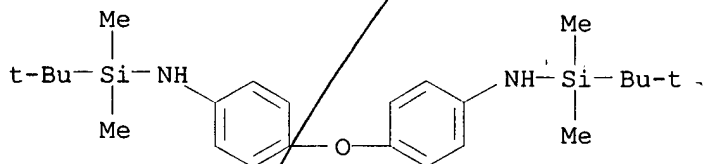
CM 5

CRN 101-77-9
CMF C13 H14 N2



L16 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:733680 HCAPLUS
DN 123:213232
TI **Photosensitive** resin composition containing polyimide with silyl ester group
IN Okinoshima, Hiroshige; Kato, Hideto
PA Shinetsu Chem Ind Co, Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-038
ICS C08L079-08; G03F007-004; G03F007-075; H01L021-312
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
FAN.CNT 1

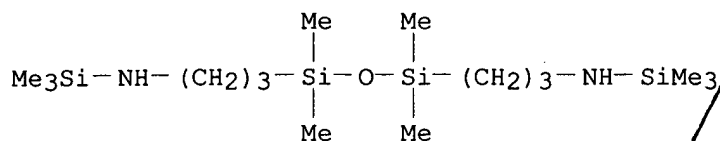
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07140659	A2	19950602	JP 1993-179954	19930625
AB	The compn. comprises a polymer -COX(COOSiR1R2R3)2CONHYNH- [X = tetravalent org. group with arom. or alicyclic group; Y = divalent org. group; R1-3 = H, C1-10 (substituted) monovalent hydrocarbon] and photosensitive acid generating agent. An elec. circuit protective film prepd. by hardening the photosensitive compn. is also claimed. The compn. shows high sensitivity, swelling on development is prevented, and is useful for the protective film for elec. circuits.				
ST	photosensitive resin polyimide silyl ester; photoresist elec circuit protective film				
IT	Polyamic acids Polyimides, uses RL: TEM (Technical or engineered material use); USES (Uses) (photoresist compn. contg. polyimide with silyl ester group and photosensitive acid generator)				
IT	Resists (photo-, photoresist compn. contg. polyimide with silyl ester group and photosensitive acid generator)				
IT	168201-06-7P 168201-08-9P 168201-09-0P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (photoresist compn. contg. polyimide with silyl ester group and photosensitive acid generator)				
IT	61358-23-4 66003-78-9 121172-98-3 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (photoresist compn. contg. polyimide with silyl ester group and photosensitive acid generator)				
IT	168201-06-7P 168201-08-9P 168201-09-0P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (photoresist compn. contg. polyimide with silyl ester group and photosensitive acid generator)				
RN	168201-06-7 HCAPLUS				
CN	1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)				
CM	1				
CRN	151565-12-7				
CMF	C24 H40 N2 O Si2				



CM 2

CRN 151565-10-5

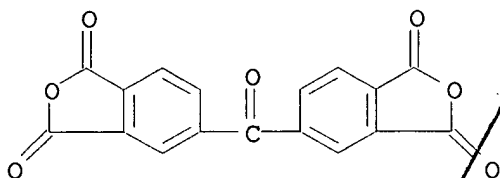
CMF C16 H44 N2 O Si4



CM 3

CRN 2421-28-5

CMF C17 H6 O7



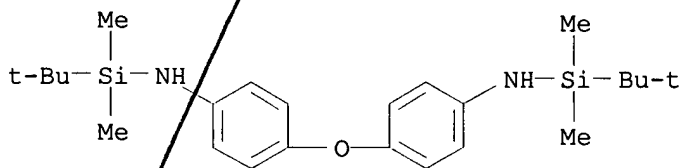
RN 168201-08-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

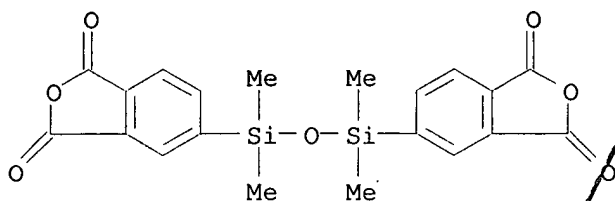
CMF C24 H40 N2 O Si2



CM 2

CRN 42297-28-9

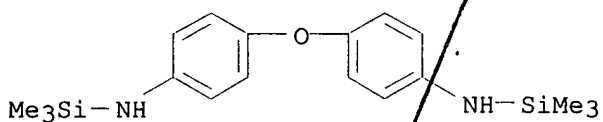
CMF C20 H18 O7 Si2



CM 3

CRN 1571-54-6

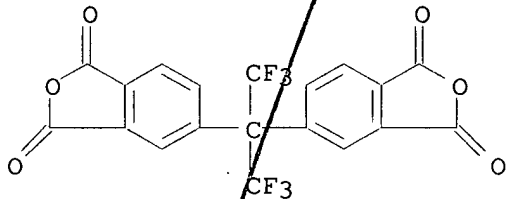
CMF C18 H28 N2 O Si2



CM 4

CRN 1107-00-2

CMF C19 H6 F6 O6



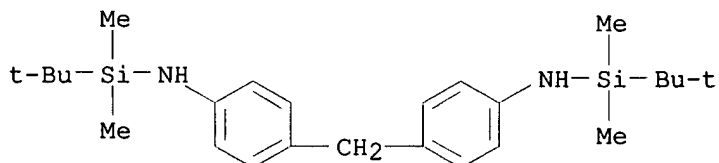
RN 168201-09-0 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(methylenedi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediy)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-35-4

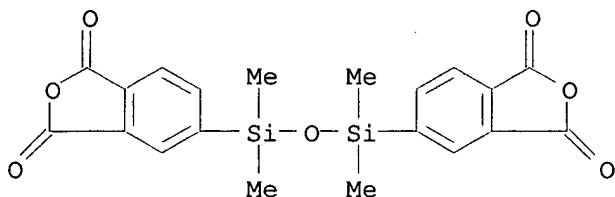
CMF C25 H42 N2 Si2



CM 2

CRN 42297-28-9

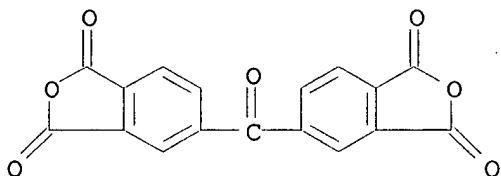
CMF C20 H18 O7 Si2



CM 3

CRN 2421-28-5

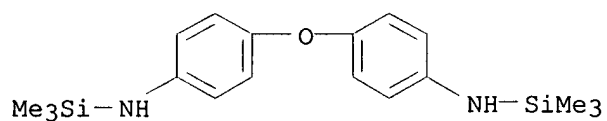
CMF C17 H6 O7



CM 4

CRN 1571-54-6

CMF C18 H28 N2 O Si2



L16 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1993:682263 HCAPLUS

DN 119:282263

TI **Photosensitive** resin compositions, their preparation and use

IN Okinoshima, Hiroshige; Kato, Hideto

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L079-08

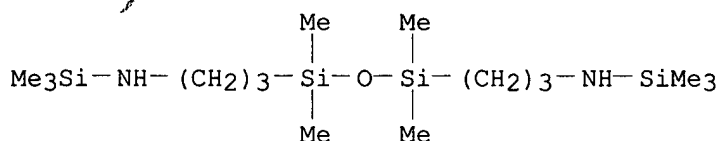
ICS G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

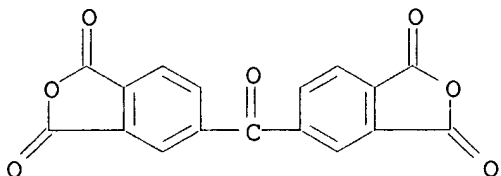
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 554040	A2	19930804	EP 1993-300536	19930126
	EP 554040	A3	19931229		
	R: DE, FR, GB				
	JP 05204156	A2	19930813	JP 1992-35670	19920127
PRAI	JP 1992-35670		19920127		
AB	A photosensitive resin compn. for forming protective insulating films for semiconductor devices and printed circuit boards and orienting films for liq.-crystal display devices comprises a photosensitive diazoquinone deriv. and a polyimide precursor comprising acid anhydride, silylated diamine, and diamine units. The compn. is exposed to UV radiation through a mask, developed in a aq. tetramethylammonium hydroxide soln., and cured at 200-350.degree. to give a heat-resistant pattern having excellent elec. and mech. properties.				
ST	photosensitive compn polyimide precursor insulating coating; diazoquinone sensitizer photosensitive polyimide precursor				
IT	Photoimaging compositions and processes (contg. photosensitive diazoquinone derivs. and silylated polyimide precursors)				
IT	Polyamic acids RL: USES (Uses) (silylated, photosensitive compns. contg. diazoquinone derivs. and, for forming insulating coatings)				
IT	Polyimides, uses RL: USES (Uses) (silyl group-contg., silylated, for forming insulating coatings)				
IT	5610-94-6	38595-90-3	83803-86-5		
	RL: USES (Uses) (photosensitive resin compns. contg. silylated polyimide precursors and, for forming insulating coatings)				
IT	151565-11-6P 151565-13-8P 151565-14-9P 151565-36-5P RL: PREP (Preparation) (prepn. of, polyimide precursors, for photosensitive compns. for forming insulating coatings)				
IT	151565-11-6P 151565-13-8P 151565-14-9P 151565-36-5P RL: PREP (Preparation) (prepn. of, polyimide precursors, for photosensitive compns. for forming insulating coatings)				
RN	151565-11-6 HCAPLUS				
CN	1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)				
CM	1				
CRN	151565-10-5				
CMF	C16 H44 N2 O Si4				



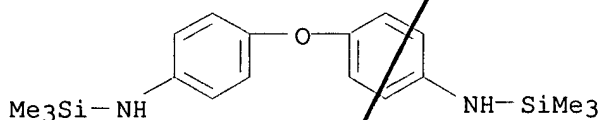
CM 2

CRN 2421-28-5
CMF C17 H6 O7



CM 3

CRN 1571-54-6
CMF C18 H28 N2 O Si2

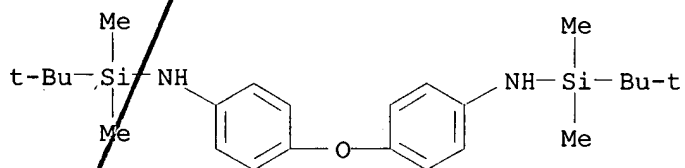


RN 151565-13-8 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and N,N'-[(1,1,3,3-tetramethyl-1,3-disiloxanediyl)di-3,1-propanediyl]bis[1,1,1-trimethylsilanamine] (9CI) (CA INDEX NAME)

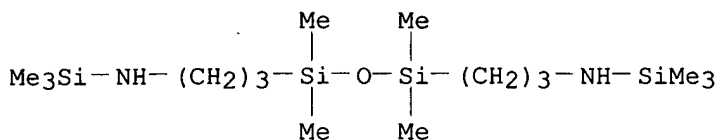
CM 1

CRN 151565-12-7
CMF C24 H40 N2 O Si2



CM 2

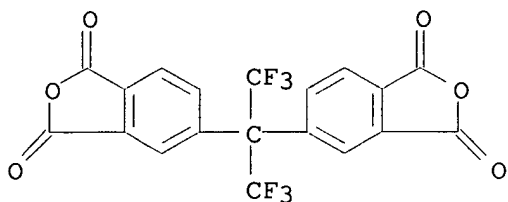
CRN 151565-10-5
CMF C16 H44 N2 O Si4



CM 3

CRN 1107-00-2

CMF C19 H6 F6 O6



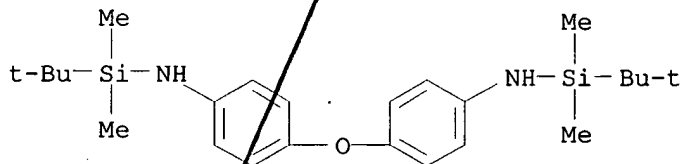
RN 151565-14-9 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with N,N'-(oxydi-4,1-phenylene)bis[1,1,1-trimethylsilanamine], N,N'-(oxydi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediy)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-12-7

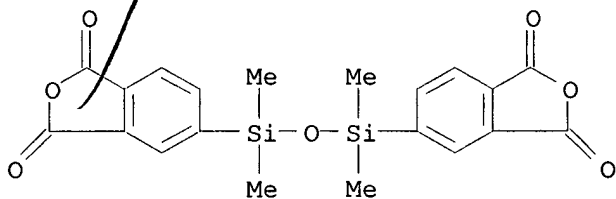
CMF C24 H40 N2 O Si2



CM 2

CRN 42297-28-9

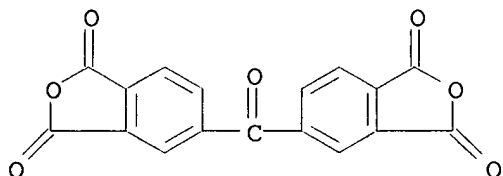
CMF C20 H18 O7 Si2



CM 3

CRN 2421-28-5

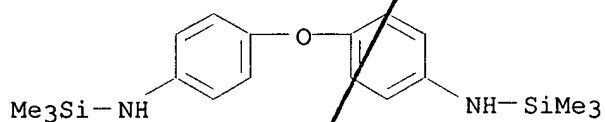
CMF C17 H6 O7



CM 4

CRN 1571-54-6

CMF C18 H28 N2 O Si2



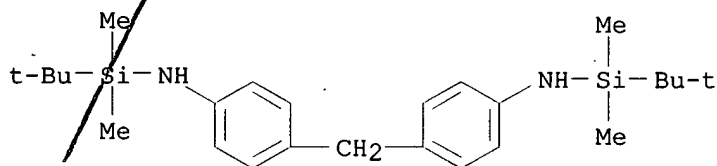
RN 151565-36-5 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-methylenebis[benzenamine], N,N'-(methylenedi-4,1-phenylene)bis[1-(1,1-dimethylethyl)-1,1-dimethylsilanamine] and 5,5'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

CM 1

CRN 151565-35-4

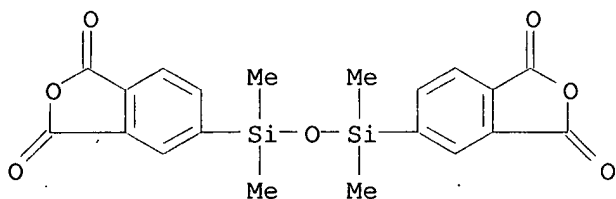
CMF C25 H42 N2 Si2



CM 2

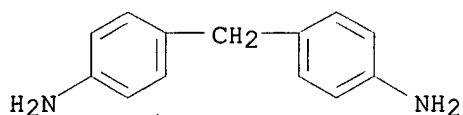
CRN 42297-28-9

CMF C20 H18 O7 Si2



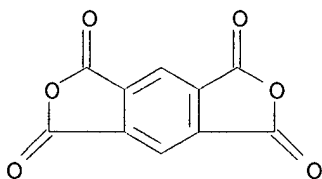
CM 3

CRN 101-77-9
CMF C13 H14 N2



CM 4

CRN 89-32-7
CMF C10 H2 O6



L16 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1993:451007 HCAPLUS

DN 119:51007

TI Pressure-sensitive acrylic adhesives

IN Yoshikawa, Takao

PA Nitto Denko Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09J004-02

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

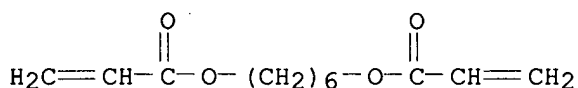
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04353582	A2	19921208	JP 1991-157671	19910531
AB	Photopolymerizable title adhesives with good anchor force to base materials are prepd. by photopolymerization of a composition comprising 100 parts monomer mixtures composed of 70-100% C2-14 alkyl esters of acrylic acid and 0-30% monoethylenically unsaturated comonomers, 0.01-4 parts photopolymerization initiators, and 0.1-5 parts isocyanates. Thus, a mixture comprising Bu acrylate 98,				

acrylic acid 2, 2,2-dimethoxy-2-phenylacetophenone (I) 0.05 part was irradiated with UV under N atm. to obtain a partially polymd. syrup with 5000 cP viscosity, 100 parts of which was blended with Coronate L 2.0, I 0.1, and trimethylolpropane triacrylate 0.1 part, then spread on a PET film and irradiated with UV lamp at 900 mJ/cm² to give a 50-.mu.m pressure-sensitive adhesive layer, which was not peeled off by soaking in AcOEt for 4 h.

- ST pressure sensitive adhesive anchor force; acrylic polymer photocurable adhesive; isocyanate acrylic polymer adhesive
- IT **Light-sensitive materials**
(acrylic polymers, **photocurable**, pressure-sensitive adhesives, contg. isocyanates, with good anchor force)
- IT Polyesters, uses
RL: USES (Uses)
(films, photocurable acrylic polymer coated with, pressure-sensitive adhesives from)
- IT Polymerization catalysts
(**photochem.**, pressure-sensitive acrylic adhesives contg.)
- IT Adhesives
(pressure-sensitive, **photocurable** acrylic polymer compns., contg. isocyanates, with good anchor force)
- IT 25038-59-9, PET, uses
RL: USES (Uses)
(films, photocurable acrylic polymer coated with, pressure-sensitive adhesives from)
- IT 947-19-3, 1-Hydroxycyclohexyl phenyl ketone 24650-42-8,
2,2-Dimethoxy-2-phenylacetophenone
RL: USES (Uses)
(**photopolymn.** initiators, pressure-sensitive acrylic adhesives contg.)
- IT 12597-68-1, Stainless steel, uses
RL: USES (Uses)
(pressure-sensitive adhesives for, acrylic polymer-coated PET films as)
- IT 148651-78-9 **148651-79-0** 148781-77-5
RL: USES (Uses)
(pressure-sensitive adhesives, on PET films, photocurable, with good anchor force)
- IT **148651-79-0**
RL: USES (Uses)
(pressure-sensitive adhesives, on PET films, photocurable, with good anchor force)
- RN 148651-79-0 HCAPLUS
- CN 2-Propenoic acid, 1,6-hexanediyl ester, polymer with ethenyl acetate, 2-ethylhexyl 2-propenoate, 2-methoxyethyl 2-propenoate and triisocyanatomethylsilane (9CI) (CA INDEX NAME)

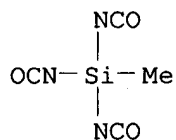
CM 1

CRN 13048-33-4
CMF C12 H18 O4



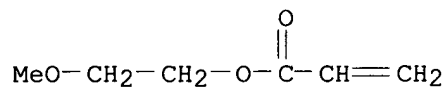
CM 2

CRN 5587-61-1
CMF C4 H3 N3 O3 Si



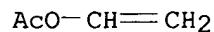
CM 3

CRN 3121-61-7
CMF C6 H10 O3



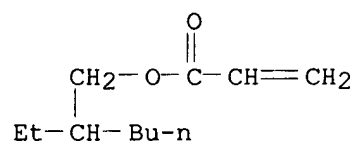
CM 4

CRN 108-05-4
CMF C4 H6 O2



CM 5

CRN 103-11-7
CMF C11 H20 O2



L16 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:82743 HCAPLUS
DN 114:82743
TI Methylsilylated **photosensitive** polyamide compositions
IN Furuya, Hiroyuki; Nagano, Kosaku
PA Kanegafuchi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-027

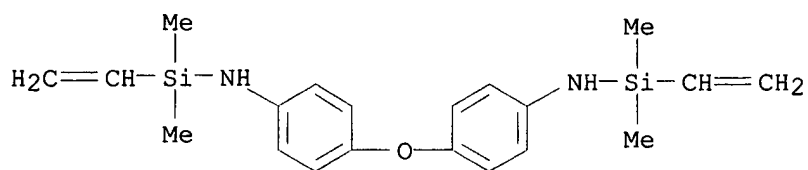
ICS C08G073-10; C08L079-08; G03F007-075; H01L021-027

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 74

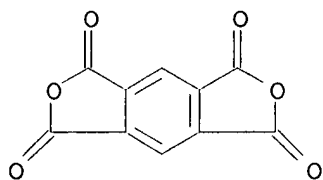
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02217856	A2	19900830	JP 1989-38858	19890217
AB	Title comps., useful for photoresists or elec. insulators, comprise -NHCOR1(CO2SiMe2Z)2CONHR2- units (R1 = tetravalent org. group; R2 = divalent org. group; Z = photosensitive substituent). Thus, 2.01 g oxydianiline and 2.56 g dimethylvinylsilyl chloride were reacted in the presence of Et3N in refluxing DMF, then 3.72 g the resulted vinyl-contg. diamine ether was treated with 2.18 g pyromellitic dianhydride to give a polyamic acid soln., which was applied onto an Al plate, dried, imagewise exposed, developed by a mixt. of acetone and DMF, and heated at 300.degree. for 1.5 h to give a neg. patterned polyimide film showing wt. loss temp. 492.degree..				
ST	photosensitive polyamic acid polyimide film; methylvinylsilylated oxyaniline pyromellitic anhydride copolymer; photoresist elec insulator photosensitive polyimide; heat resistance polyimide photoresist				
IT	Heat-resistant materials (methylsilylated polyimides, photosensitive , for photoresists or elec. insulators)				
IT	Polyamic acids RL: USES (Uses) (photosensitive , for photoresists or elec. insulators, with heat resistance)				
IT	Polyimides, preparation RL: PREP (Preparation) (prepn. of, heat-resistant, photosensitive , for photoresist or elec. insulators)				
IT	Resists (photo -, methylsilylated photosensitive polyamic acids for, with heat resistance)				
IT	101-80-4	1719-58-0	Dimethylvinylsilyl chloride	132042-42-3	
	RL: USES (Uses) (photosensitive polyimides from, for photoresists or elec. insulators, with heat resistance)				
IT	127536-86-1P	131914-90-4P			
	RL: PREP (Preparation) (prepn. of, heat-resistant, photosensitive , for photoresist or elec. insulators)				
IT	127536-86-1P	131914-90-4P			
	RL: PREP (Preparation) (prepn. of, heat-resistant, photosensitive , for photoresist or elec. insulators)				
RN	127536-86-1	HCAPLUS			
CN	1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-ethenyl-1,1-dimethylsilanamine] (9CI) (CA INDEX NAME)				
CM	1				
CRN	121783-91-3				
CMF	C20 H28 N2 O Si2				



CM 2

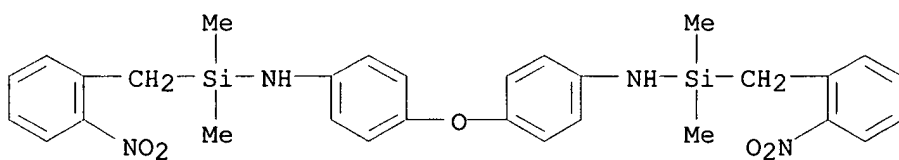
CRN 89-32-7
CMF C10 H2 O6



RN 131914-90-4 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with
N,N'-(oxydi-4,1-phenylene)bis[dimethyl[(2-nitrophenyl)methyl]silanamine]
(9CI) (CA INDEX NAME)

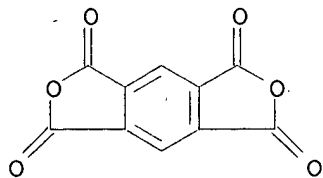
CM 1

CRN 131914-89-1
CMF C30 H34 N4 O5 Si2



CM 2

CRN 89-32-7
CMF C10 H2 O6



AN 1990:632167 HCAPLUS
 DN 113:232167
 TI Synthesis and characterization of new **photosensitive**
 poly(oxyaryleneoxydisilanes) from 1,2-bis(diethylamino)tetramethyldisilane
 and various bisphenols
 AU Padmanaban, Munirathina; Kakimoto, Masaaki; Imai, Yoshio
 CS Dep. Org. Polym. Mater., Tokyo Inst. Technol., Tokyo, 152, Japan
 SO J. Polym. Sci., Part A: Polym. Chem. (1990), 28(11), 2997-3005
 CODEN: JPACEC; ISSN: 0887-624X
 DT Journal
 LA English
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36
 AB A class of polymers contg. a **photosensitive** disilane unit in the
 polymer main chain with inherent viscosities 0.1-0.59 dL/g was prepd. by
 the melt polycondensation of 1,2-bis(diethylamino)tetramethyldisilane and
 various bisphenols. The polymers were characterized by UV, IR, 1H NMR,
 and elemental anal. Poly(oxyaryleneoxydisilanes) were sol. in a variety
 of common org. solvents and had a wide range of glass temps. varying
 between -65 and +135.degree., depending on the arylene structure. Most of
 the polymers were stable <350.degree. in both air and N.
 ST **photosensitive** polyoxyaryleneoxydisilane;
 ethylaminotetramethyldisilane bisphenol polyoxyaryleneoxydisilane; silane
photosensitive polymer prepn
 IT Glass temperature and transition
 (of **photosensitive** poly(oxyaryleneoxydisilanes))
 IT Polysulfones, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyether-polysilane-, prepn. and properties of **photosensitive**
)
 IT Cardo polymers
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polyethers, silane group-contg., prepn. and properties of
photosensitive)
 IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polysilane-, prepn. and properties of **photosensitive**)
 IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (polysilane-polysulfone-, prepn. and properties of
photosensitive)
 IT Polyethers, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (thio-, polysilane-, prepn. and properties of **photosensitive**)
 IT 109-89-7, reactions
 RL: RCT (Reactant)
 (nucleophilic substitution of, on dichlorotetramethyldisilane)
 IT 119351-06-3P, 1,2-Bis(diethylamino)tetramethyldisilane
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and polymn. of, with bisphenols)
 IT 129208-07-7P 129209-42-3P 130869-32-8P
 130869-33-9P 130869-34-0P 130869-35-1P
 130869-36-2P 130869-37-3P 130869-38-4P
 130869-39-5P 130869-40-8P 130870-62-1P
 130870-63-2P 130870-64-3P 130870-65-4P 130870-66-5P 130870-67-6P
 130870-68-7P 130870-69-8P 130870-70-1P 130870-71-2P 130870-72-3P
 130902-77-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and properties of **photosensitive**)
 IT 4342-61-4, 1,2-Dichlorotetramethyldisilane

RL: RCT (Reactant)
(reaction of, with diethylamine)

IT 129209-42-3P 130869-32-8P 130869-33-9P
130869-34-0P 130869-35-1P 130869-36-2P
130869-37-3P 130869-38-4P 130869-39-5P
130869-40-8P 130870-62-1P 130902-77-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of **photosensitive**)

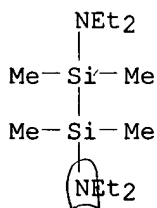
RN 129209-42-3 HCAPLUS

CN 2,6-Naphthalenediol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 119351-06-3

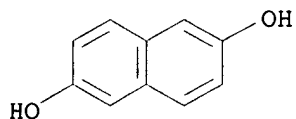
CMF C12 H32 N2 Si2



CM 2

CRN 581-43-1

CMF C10 H8 O2



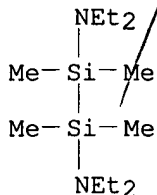
RN 130869-32-8 HCAPLUS

CN 1,4-Benzenediol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

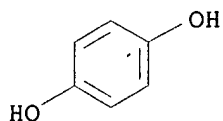
CRN 119351-06-3

CMF C12 H32 N2 Si2



CM 2

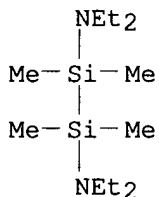
CRN 123-31-9
CMF C6 H6 O2



RN 130869-33-9 HCAPLUS
CN 2,7-Naphthalenediol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

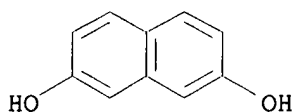
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2



CM 2

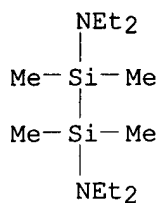
CRN 582-17-2
CMF C10 H8 O2



RN 130869-34-0 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

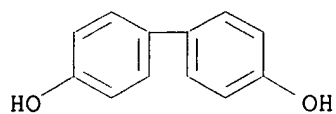
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2



CM 2

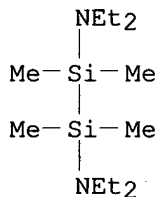
CRN 92-88-6
CMF C12 H10 O2



RN 130869-35-1 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diol, 3,3',5,5'-tetramethyl-, polymer with
N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA
INDEX NAME)

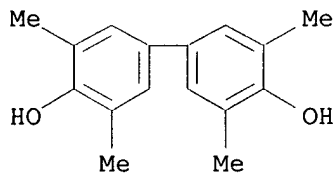
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2



CM 2

CRN 2417-04-1
CMF C16 H18 O2



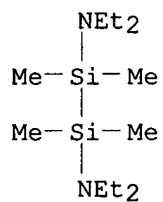
RN 130869-36-2 HCAPLUS
CN Phenol, 4,4'-thiobis-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-

tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 119351-06-3

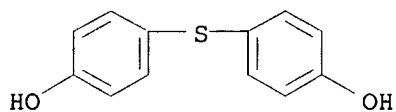
CMF C12 H32 N2 Si2



CM 2

CRN 2664-63-3

CMF C12 H10 O2 S



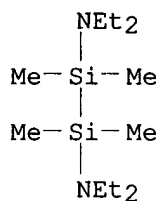
RN 130869-37-3 HCAPLUS

CN Phenol, 4,4'-sulfonylbis-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 119351-06-3

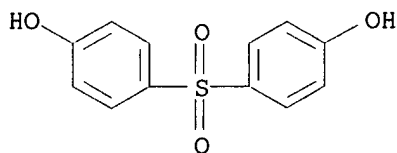
CMF C12 H32 N2 Si2



CM 2

CRN 80-09-1

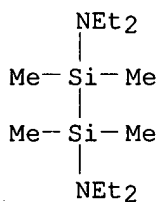
CMF C12 H10 O4 S



RN 130869-38-4 HCAPLUS
 CN Phenol, 4,4'-sulfonylbis[2,6-dimethyl-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

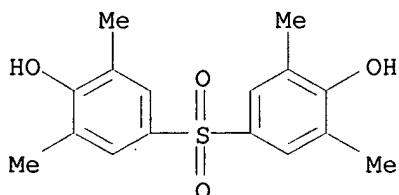
CM 1

CRN 119351-06-3
 CMF C12 H32 N2 Si2



CM 2

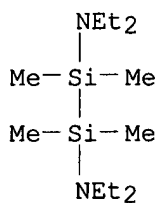
CRN 13288-70-5
 CMF C16 H18 O4 S



RN 130869-39-5 HCAPLUS
 CN 1H-Inden-5-ol, 2,3-dihydro-3-(4-hydroxyphenyl)-1,1,3-trimethyl-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

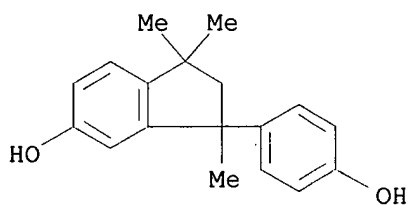
CM 1

CRN 119351-06-3
 CMF C12 H32 N2 Si2



CM 2

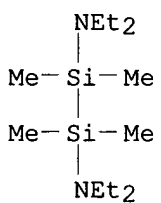
CRN 10527-11-4
CMF C18 H20 O2



RN 130869-40-8 HCAPLUS
CN Phenol, 4,4'-(9H-fluoren-9-ylidene)bis-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

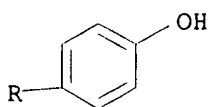
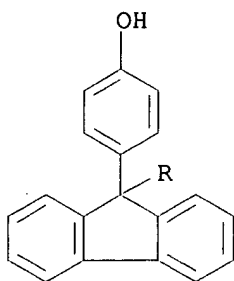
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2

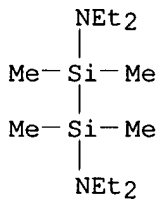


CM 2

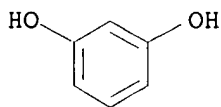
CRN 3236-71-3
CMF C25 H18 O2



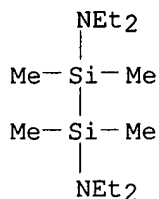
RN 130870-62-1 HCAPLUS
 CN 1,3-Benzenediol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)
 CM 1
 CRN 119351-06-3
 CMF C12 H32 N2 Si2



CM 2
 CRN 108-46-3
 CMF C6 H6 O2



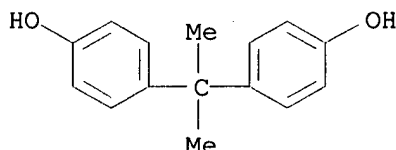
RN 130902-77-1 HCAPLUS
 CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)
 CM 1
 CRN 119351-06-3
 CMF C12 H32 N2 Si2



CM 2

CRN 80-05-7

CMF C15 H16 O2



L16 ANSWER 24 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1990:562338 HCAPLUS
 DN 113:162338
 TI A study of novel heat-resistant polymers: preparation of **photosensitive** fluorinated polybenzoxazole precursors and physical properties of polybenzoxazoles derived from the precursors
 AU Yamaoka, Tsuguo; Nakajima, Nobuko; Koseki, Ken'ichi; Maruyama, Yutaka
 CS Fac. Eng., Chiba Univ., Chiba, 260, Japan
 SO J. Polym. Sci., Part A: Polym. Chem. (1990), 28(9), 2517-32
 CODEN: JPACEC; ISSN: 0887-624X
 DT Journal
 LA English
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76
 AB A series of novel **photosensitive** polybenzoxazole precursors were prepd. from polycondensation of 2,2-bis(3,3'-amino-4,4'-hydroxyphenyl)hexafluoropropane with **photosensitive** dicarboxylic acid chlorides such as p-phenylenediacryloyl chloride and benzophenone-4,4'-dicarboxylic chloride. The precursors are sol. in common org. solvents owing to the presence of perfluoromethyl groups in the chain structure and insolubilized in the solvents upon irradiation with the light. Polybenzoxazole patterns with high resolution as well as high aspect ratio were reproduced by baking the precursor patterns at 300.degree.. The pattern shrinkage on the conversion to polybenzoxazole was slight. The polybenzoxazole films offered good heat-resistance up to 400.degree. in addition to good elec. properties.
 ST photoresist fluorinated polybenzoxazole deriv
 IT Photoimaging compositions and processes
 (fluorinated polybenzoxazole precursors for)
 IT Resists
 (photo-, polymeric, fluorinated polybenzoxazole precursors for)
 IT Crosslinking
 Dimerization

(photochem., of heat-resistant polymers as polybenzoxazole precursors)
 IT 920-46-7D, Methacryloyl chloride, reaction products with fluorinated
 polybenzoxazole precursor polymer 129701-94-6D, reaction
 products with methacryloyl chloride 129726-49-4
 129726-52-9 129726-53-0

RL: USES (Uses)

(heat-resistant fluorinated polybenzoxazole precursor, as potential
 photoimaging and photoresist materials)

IT 129701-94-6D, reaction products with methacryloyl chloride
 129726-49-4 129726-52-9 129726-53-0

RL: USES (Uses)

(heat-resistant fluorinated polybenzoxazole precursor, as potential
 photoimaging and photoresist materials)

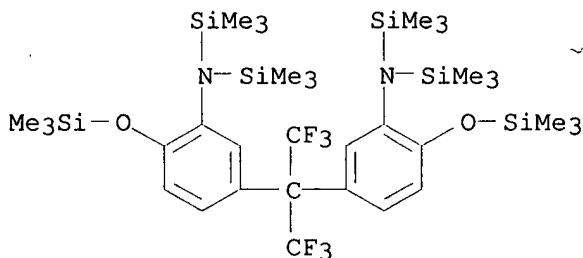
RN 129701-94-6 HCAPLUS

CN Benzoyl chloride, 4,4'-carbonylbis-, polymer with N,N'-[[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[5-[(trimethylsilyl)oxy]-3,1-
 phenylene]]bis[1,1,1-trimethyl-N-(trimethylsilyl)silanamine] (9CI) (CA
 INDEX NAME)

CM 1

CRN 129726-48-3

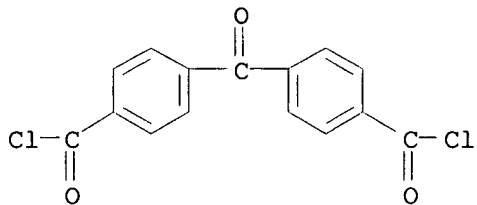
CMF C33 H60 F6 N2 O2 Si6



CM 2

CRN 6423-31-0

CMF C15 H8 Cl2 O3

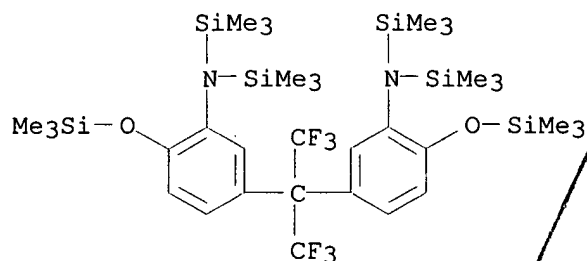


RN 129726-49-4 HCAPLUS

CN 2-Propenoyl chloride, 3,3'-(1,4-phenylene)bis-, polymer with
 N,N'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[6-
 [(trimethylsilyl)oxy]-3,1-phenylene]]bis[1,1,1-trimethyl-N-
 (trimethylsilyl)silanamine] (9CI) (CA INDEX NAME)

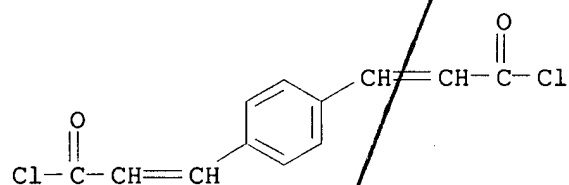
CM 1

CRN 129726-48-3
CMF C33 H60 F6 N2 O2 Si6



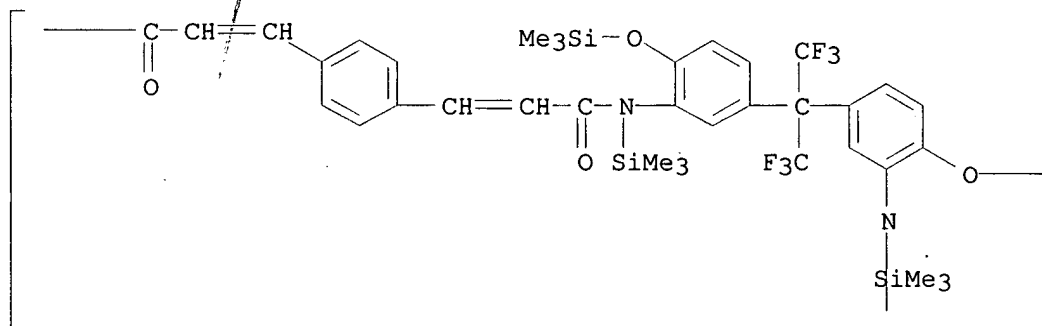
CM 2

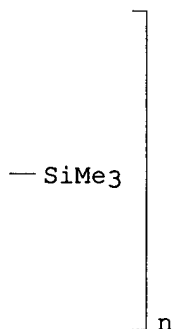
CRN 35288-49-4
CMF C12 H8 Cl2 O2



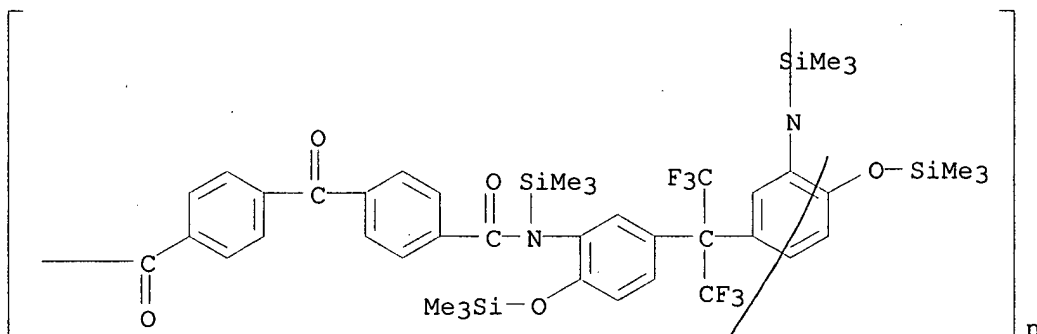
RN 129726-52-9 HCAPLUS
CN Poly[[(trimethylsilyl)imino] [6-[(trimethylsilyl)oxy]-1,3-phenylene] [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] [4-[(trimethylsilyl)oxy]-1,3-phenylene] [(trimethylsilyl)imino] (1-oxo-2-propene-1,3-diyl)-1,4-phenylene (3-oxo-1-propene-1,3-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A





RN 129726-53-0 HCAPLUS
 CN Poly[[(trimethylsilyl)imino] [6-[(trimethylsilyl)oxy]-1,3-phenylene] [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] [4-[(trimethylsilyl)oxy]-1,3-phenylene] [(trimethylsilyl)imino]carbonyl-1,4-phenylenecarbonyl-1,4-phenylenecarbonyl] (9CI) (CA INDEX NAME)



L16 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1990:516019 HCAPLUS
 DN 113:116019
 TI Preparation and properties of new disilane-containing polyamide and polyimides from diaminodisilanes and bisphenol compounds
 AU Padmanaban, Munirathina; Kakimoto, Masaaki; Imai, Yoshio
 CS Dep. Org. Polym. Mater., Tokyo Inst. Technol., Tokyo, 152, Japan
 SO Polym. J. (Tokyo) (1990), 22(7), 587-92
 CODEN: POLJB8; ISSN: 0032-3896
 DT Journal
 LA English
 CC 35-7 (Chemistry of Synthetic High Polymers)
 AB Two new diaminodisilanes, 1,2-bis(diethylamino)tetramethyldisilane and 1,2-bis(anilino)tetramethyldisilane, were synthesized from 1,2-dichlorotetramethyldisilane and the resp. amines. These disilane-contg. monomers were reacted with bisphenols contg. amide and imide groups, giving disilane-contg. polyamide and polyimides which had rather low inherent viscosity, around 0.1 dL g⁻¹. The polymers were characterized by UV, IR, and elemental anal. All the polymers were sol. in N,N-dimethylacetamide, DMSO, N-methyl-2-pyrrolidone, and some of them were also sol. in THF. The polymers had glass temps. between

105-120.degree. and were thermally stable .ltoreq.300.degree. in both air and N atmospheres. A decrease in the mol. wt. was obsd. upon exposure to UV light, indicating the **photosensitivity** of the disilane-contg. polymers.

ST disilane polyamide polyimide prepn characterization

IT Polymerization

(of diaminotetramethyldisilanes with arom. bis(hydroxyphenyl)amides or -imides)

IT Polyamides, preparation

Polyimides, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of disilane-contg.)

IT 99-63-8, 1,3-Benzenedicarbonyl dichloride

RL: RCT (Reactant)

(amidation of, with aminophenol)

IT 4342-61-4, 1,2-Dichlorotetramethyldisilane

RL: RCT (Reactant)

(condensation of, with amines)

IT 62-53-3, Benzenamine, reactions 109-89-7, reactions

RL: RCT (Reactant)

(condensation of, with dichlorotetramethyldisilane)

IT 591-27-5, m-Aminophenol

RL: RCT (Reactant)

(condensation of, with polycarboxylic acids)

IT 89-32-7

RL: RCT (Reactant)

(imidation of, with aminophenol)

IT 30566-24-6P 31663-69-1P, N,N'-Bis(m-hydroxyphenyl)pyromellitimide

95399-67-0P, 1,2-Bis(anilino)tetramethyldisilane 119351-06-3P,

1,2-Bis(diethylamino)tetramethyldisilane 129209-40-1P,

N,N'-Bis(m-hydroxyphenyl)-4,4'-sulfonyldipthalimide

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and polycondensation of)

IT 129208-06-6P 129208-07-7P 129209-38-7P 129209-39-8P

129209-41-2P 129209-42-3P 129209-43-4P

129209-44-5P 129209-45-6P 129231-17-0P 129231-18-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

IT 129209-38-7P 129209-39-8P 129209-41-2P

129209-42-3P 129209-43-4P 129209-44-5P

129209-45-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

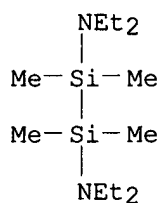
RN 129209-38-7 HCAPLUS

CN 1,3-Benzenedicarboxamide, N,N'-bis(3-hydroxyphenyl)-, polymer with
N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA
INDEX NAME)

CM 1

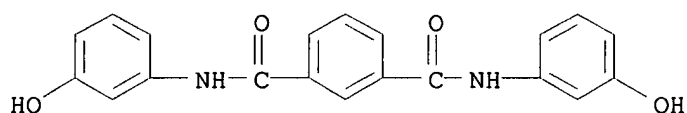
CRN 119351-06-3

CMF C12 H32 N2 Si2



CM 2

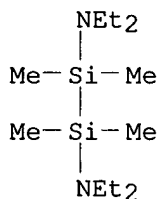
CRN 30566-24-6
CMF C20 H16 N2 O4



RN 129209-39-8 HCAPLUS
CN Benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone, 2,6-bis(3-hydroxyphenyl)-, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

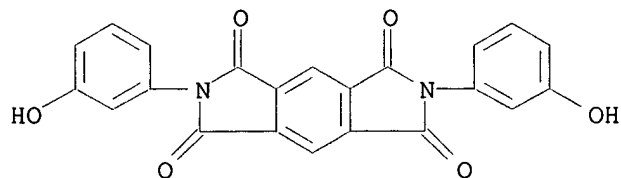
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2



CM 2

CRN 31663-69-1
CMF C22 H12 N2 O6

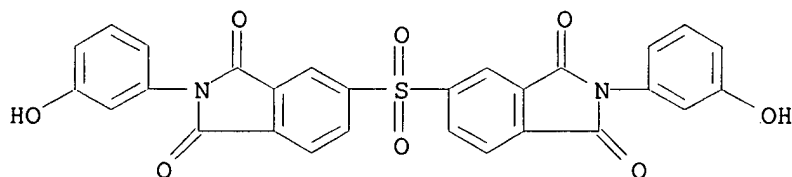


RN 129209-41-2 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-sulfonylbis[2-(3-hydroxyphenyl)]-, polymer

with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI)
(CA INDEX NAME)

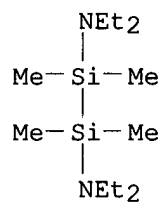
CM 1

CRN 129209-40-1
CMF C28 H16 N2 O8 S



CM 2

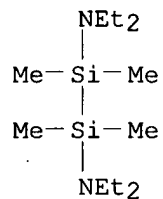
CRN 119351-06-3
CMF C12 H32 N2 Si2



RN 129209-42-3 HCAPLUS
CN 2,6-Naphthalenediol, polymer with N,N,N',N'-tetraethyl-1,1,2,2-tetramethyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

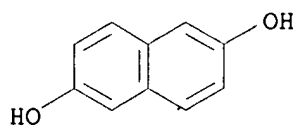
CM 1

CRN 119351-06-3
CMF C12 H32 N2 Si2



CM 2

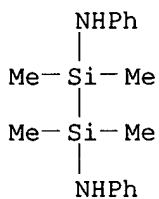
CRN 581-43-1
CMF C10 H8 O2



RN 129209-43-4 HCAPLUS
 CN 1,3-Benzenedicarboxamide, N,N'-bis(3-hydroxyphenyl)-, polymer with
 1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediamine (9CI) (CA INDEX
 NAME)

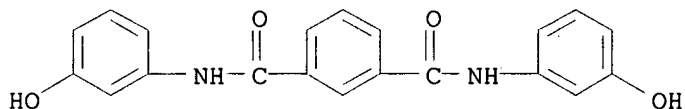
CM 1

CRN 95399-67-0
 CMF C16 H24 N2 Si2



CM 2

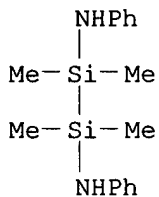
CRN 30566-24-6
 CMF C20 H16 N2 O4



RN 129209-44-5 HCAPLUS
 CN Benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone, 2,6-bis(3-
 hydroxyphenyl)-, polymer with 1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-
 disilanediamine (9CI) (CA INDEX NAME)

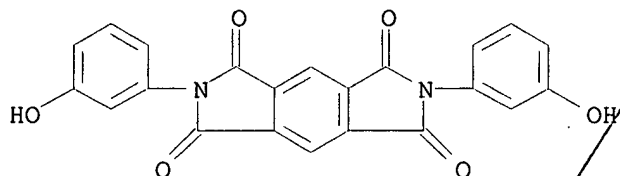
CM 1

CRN 95399-67-0
 CMF C16 H24 N2 Si2



CM 2

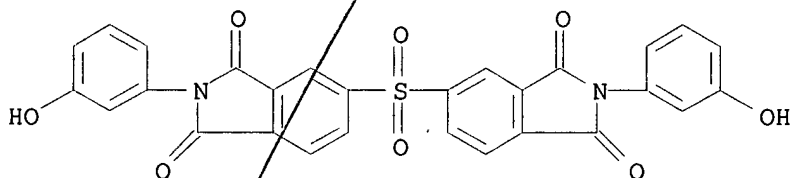
CRN 31663-69-1
CMF C22 H12 N2 O6



RN 129209-45-6 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-sulfonylbis[2-(3-hydroxyphenyl)-, polymer with 1,1,2,2-tetramethyl-N,N'-diphenyl-1,2-disilanediamine (9CI) (CA INDEX NAME)

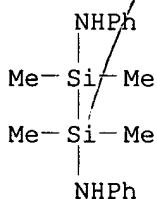
CM 1

CRN 129209-40-1
CMF C28 H16 N2 O8 S



CM 2

CRN 95399-67-0
CMF C16 H24 N2 Si2

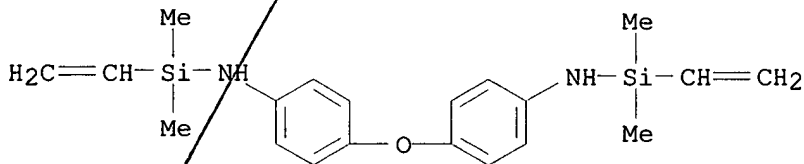


L16 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:414810 HCAPLUS
DN 113:14810
TI Heat-resistant photoresist
IN Wada, Keiichiro; Furukawa, Nobuyuki
PA Nippon Steel Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
 IC ICM C08G073-10
 ICS C08F002-48; C08F299-02; C08G071-02; C08G073-10
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76

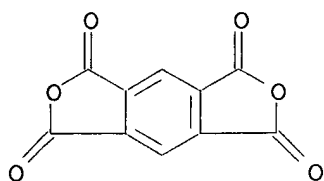
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01230631	A2	19890914	JP 1988-55958	19880311
AB	A tetracarboxylic anhydride is reacted with a silylated diamine contg. photosensitive groups at .ltoreq.100.degree. in an org. solvent. The resultant heat-resistant photosensitive polyimide or polyamidoimide is used as a photoresist for relief pattern formation during semiconductor device fabrication.				
ST	photoresist polyimide polyamide silylated; resist pattern polyimide polyamide				
IT	Semiconductor devices (fabrication of, heat-resistant resists for)				
IT	Polyimides, uses and miscellaneous RL: USES (Uses) (photoresists, for heat-resistant pattern formation)				
IT	Resists (photo-, silylated polyimides and polyamidoimides as, for heat-resistant pattern formation)				
IT	127536-86-1 127536-88-3 127536-90-7 127554-77-2 127706-32-5 RL: USES (Uses) (photoresist compn. using, for heat-resist resist pattern formation)				
IT	127536-86-1 127536-88-3 127536-90-7 127554-77-2 127706-32-5 RL: USES (Uses) (photoresist compn. using, for heat-resist resist pattern formation)				
RN	127536-86-1 HCAPLUS				
CN	1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with N,N'-(oxydi-4,1-phenylene)bis[1-ethenyl-1,1-dimethylsilanamine] (9CI) (CA INDEX NAME)				
CM	1				
CRN	121783-91-3				
CMF	C20 H28 N2 O Si2				



CM 2

CEN 89-32-7
 CMF C10 H2 O6

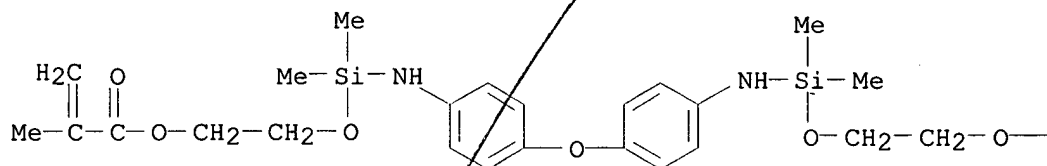


RN 127536-88-3 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)oxy-2,1-ethanediyl] ester, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

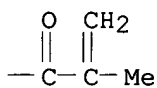
CM 1

CRN 127536-87-2
 CMF C28 H40 N2 O7 Si2

PAGE 1-A

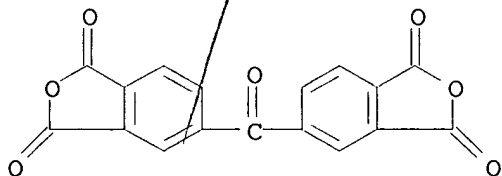


PAGE 1-B



CM 2

CRN 2421-28-5
 CMF C17 H6 O7

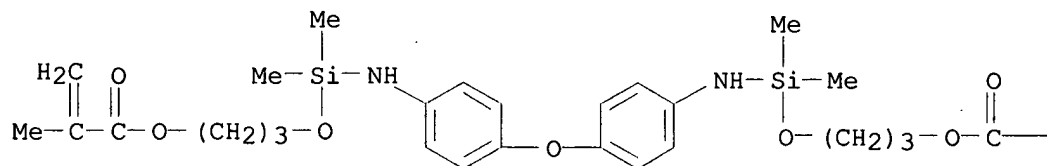


RN 127536-90-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)oxy-3,1-propanediyl] ester, polymer with 5,5'-carbonylbis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

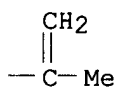
CM 1

CRN 127536-89-4
CMF C30 H44 N2 O7 Si2

PAGE 1-A

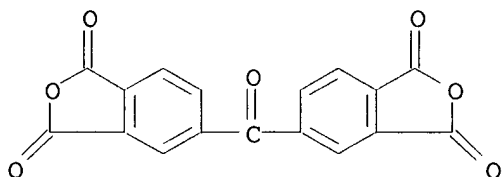


PAGE 1-B



CM 2

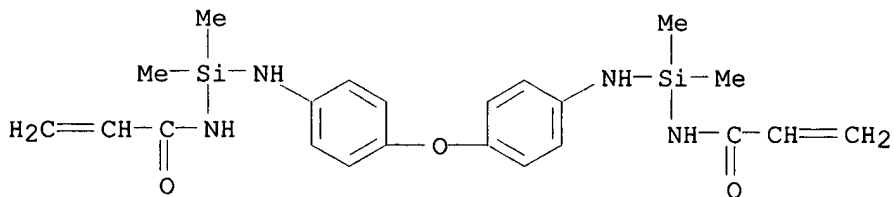
CRN 2421-28-5
CMF C17 H6 O7



RN 127554-77-2 HCAPLUS
CN 2-Propenamide, N,N'-[oxybis[4,1-phenyleneimino(dimethylsilylene)]]bis-,
polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA
INDEX NAME)

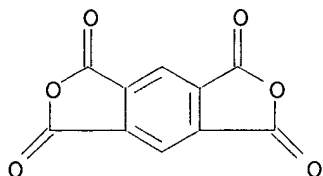
CM 1

CRN 127554-76-1
CMF C22 H30 N4 O3 Si2



CM 2

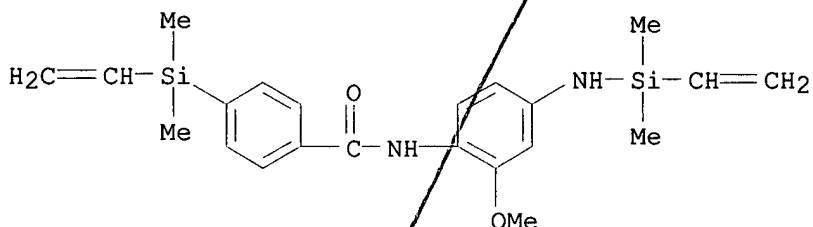
CRN 89-32-7
CMF C10 H2 O6



RN 127706-32-5 HCAPLUS
CN Benzamide, 4-(ethenyldimethylsilyl)-N-[4-[(ethenyldimethylsilyl)amino]-2-methoxyphenyl]-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

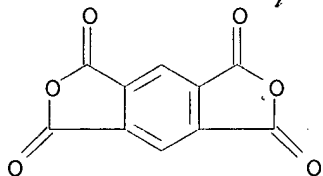
CM 1

CRN 127706-31-4
CMF C22 H30 N2 O2 Si2



CM 2

CRN 89-32-7
CMF C10 H2 O6



L16 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:202831 HCAPLUS
DN 110:202831
TI Electrophotographic photoreceptors with interlayer from materials such as silyl isocyanates, silicone resins, and organic metal complexes
IN Nagame, Hiroshi; Ide, Yukio; Oshima, Koichi; Rokutanzono, Setsu; Kojima, Shigeto

PA Ricoh Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03G005-14
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63239459	A2	19881005	JP 1987-53947	19870311
	JP 01006963	A2	19890111	JP 1987-103312	19870428
PRAI	JP 1986-281914		19861128		

AB Electrophotog. photoreceptors are prepd. by forming sucessively a **photosensitive** layer, an interlayer from a silyl isocyanate type material, a silicone resin having alkoxy groups, an org. metal complex, a mixt. of the complex and a silane coupling agent, or inorg. materials such as Si compds. and B compds. The photoreceptors provide high quality images and exhibit excellent durability. Thus, an Al plate was coated with As₂Se₃ alloy by vapor deposition, coated with a compn. contg. methylsilyl isocyanate and tetrasilyl isocyanate, and then coated with a compn. contg. V-200 (polyester resin) and a SnO₂ powder to give a photoreceptor, which showed good charging properties, sensitivity, and a low residual potential.

ST electrophotog photoreceptor silyl isocyanate interlayer; silicone resin interlayer electrophotog photoreceptor; metal complex interlayer electrophotog photoreceptor; silane coupling agent electrophotog photoreceptor; boron interlayer electrophotog photoreceptor

IT Polycarbonates, uses and miscellaneous

RL: USES (Uses)

(electrophotog. photoreceptor with interlayers contg., for improved durability)

IT Electrophotographic plates

(with interlayers contg. silyl isocyanates or silicone resins or org. metal complexes, for improved durability)

IT Siloxanes and Silicones, uses and miscellaneous

RL: USES (Uses)

(alkoxy, electrophotog. photoreceptor with interlayers contg., for improved durability)

IT 109371-84-8, Silicon nitride (SiO-1N0-1)

RL: USES (Uses)

(electrophotog. photoreceptor with interlayer contg. hydrogenated amorphous, for improved durability)

IT 120469-29-6 120469-30-9

RL: USES (Uses)

(electrophotog. photoreceptor with interlayers contg., for improved durability)

IT 120469-29-6 120469-30-9

RL: USES (Uses)

(electrophotog. photoreceptor with interlayers contg., for improved durability)

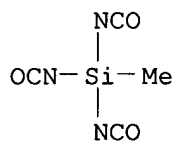
RN 120469-29-6 HCAPLUS

CN Silane, tetraisocyanato-, polymer with triisocyanatomethylsilane (9CI)
 (CA INDEX NAME)

CM 1

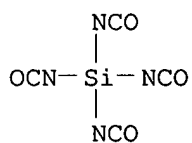
CRN 5587-61-1

CMF C4 H3 N3 O3 Si



CM 2

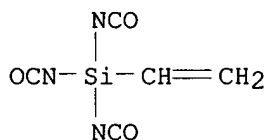
CRN 3410-77-3
CMF C4 N4 O4 Si



RN 120469-30-9 HCAPLUS
CN Silane, ethenyltriisocyanato-, polymer with tetraisocyanatosilane (9CI)
(CA INDEX NAME)

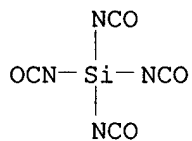
CM 1

CRN 18297-37-5
CMF C5 H3 N3 O3 Si



CM 2

CRN 3410-77-3
CMF C4 N4 O4 Si

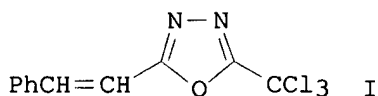


L16 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:446274 HCAPLUS
DN 109:46274
TI Photochemically decomposable microcapsules
IN Watanabe, Akio; Washizu, Shintaro; Shinozaki, Fumiaki; Ishikawa, Shunichi;

Aoi, Toshiaki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Ger. Offen., 29 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM B01J013-02
 ICS A61K009-58; G03C005-54
 ICA C08J003-28; C09B067-08; C09J003-00; C09K019-52; C23F011-00; C11D017-00;
 A01N025-28; G03C001-68
 ICI C08L083-04, C08K005-34
 CC 74-10 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3630693	A1	19870312	DE 1986-3630693	19860909
	JP 62057646	A2	19870313	JP 1985-198744	19850909
	JP 62057647	A2	19870313	JP 1985-198745	19850909
	US 4766037	A	19880823	US 1986-906702	19860909
PRAI	JP 1985-198744		19850909		
	JP 1985-198745		19850909		
GI					



AB Photochem. decomposable microcapsules, which can be used in a variety of imaging applications and the like, are composed of liq. or semi-solid cores and polymeric walls from a silyl ether or silylureido bond-contg. synthetic polymer and a compd. that frees an acid upon exposure to light. A sensitizer for increasing the amt. of acid freed upon exposure can also be added to the walls. Upon exposure the characteristics of the microcapsule walls are altered by the formation of the acid. Microcapsules, which contained 1,1-xylylphenylethane and I, were prep'd. by polymn. of Me2Si(OCH2CH2OH)2 with Burnock D-750 in poly(vinyl alc.). The microcapsules were filtered off, combined with dextrin, coated on a paperboard box, and UV exposed. The pressure required to rupture the microcapsules in the exposed areas was 5 kg/m2 vs. 300 kg/m2 in the nonexposed areas.

ST pressure sensitive photodecomposable microcapsule recording; transfer pressure sensitive photodecomposable microcapsule

IT Photoimaging compositions and processes
 (photodecomposable pressure-sensitive microcapsule-contg., for transfer images)

IT 110680-80-3 110707-52-3 110707-54-5 110769-42-1
 110769-44-3 110769-45-4
 RL: USES (Uses)
 (photodecomposable microcapsules with walls contg. acid generator and)

IT 68015-88-3 72015-19-1 110884-64-5
 RL: USES (Uses)
 (photodecomposable microcapsules with walls contg., for photoimaging applications)

IT 110707-54-5 110769-44-3 110769-45-4

RL: USES (Uses)

(photodecomposable microcapsules with walls contg. **acid generator** and)

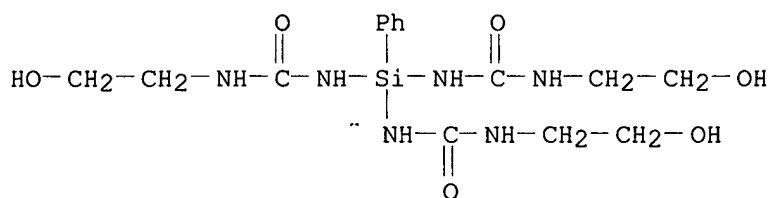
RN 110707-54-5 HCAPLUS

Urea, N,N',N'''-(phenylsilylidyne)tris[N'-(2-hydroxyethyl)-, polymer
with 1,3-diisocyanatomethylbenzene and 1,6-hexanediamine (9CI) (CA INDEX
NAME)

CM 1

CRN 110707-53-4

CMF C15 H26 N6 O6 Si

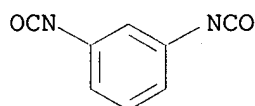


CM 2

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



D1-Me

CM 3

CRN 124-09-4

CMF C6 H16 N2

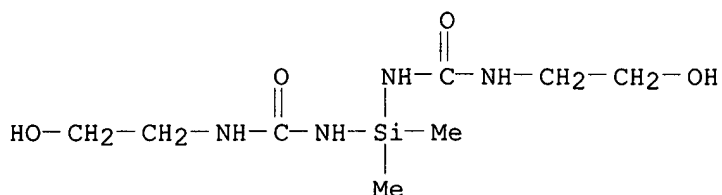
$$\text{H}_2\text{N}-(\text{CH}_2)_6-\text{NH}_2$$

RN 110769-44-3 HCAPLUS

CN Carbamic acid, (3-isocyanatomethylphenyl)-, 2-ethyl-2-[[[(3-isocyanatomethylphenyl)amino]carbonyl]oxylmethyl]-1,3-propanediyl ester, polymer with N,N'-(dimethylsilylene)bis[N'-(2-hydroxyethyl)urea] (9CI)
(CA INDEX NAME)

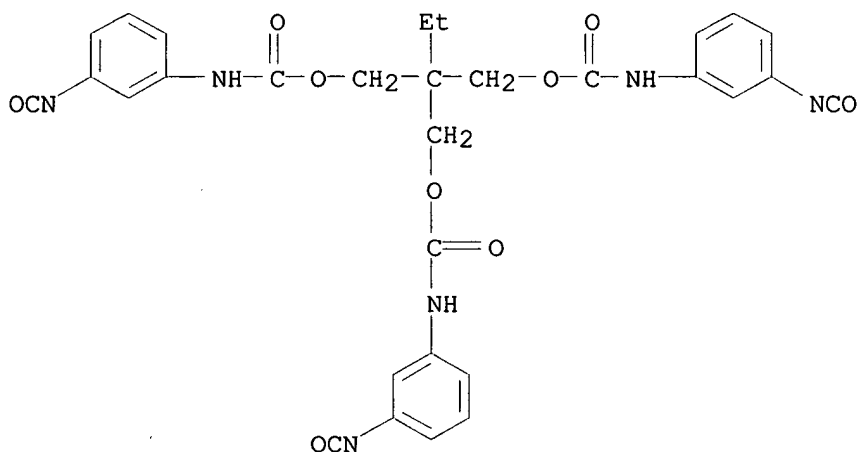
CM. 1

CRN 110769-43-2
CMF C8 H20 N4 O4 Si



CM 2

CRN 28805-80-3
CMF C33 H32 N6 O9
CCI IDS

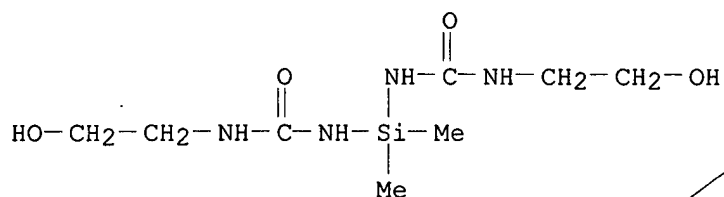


3 (D1-Me)

RN 110769-45-4 HCAPLUS
CN Isocyanic acid, polymethylenepolyphenylene ester, polymer with
N,N'-(dimethylsilylene)bis[N'-(2-hydroxyethyl)urea] and
.alpha.,.alpha.',.alpha.',.alpha.''-[1,2-ethanediylbis[nitrilobis(methyl-
2,1-ethanediyl)]]tetrakis[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]
(9CI) (CA INDEX NAME)

CM 1

CRN 110769-43-2
CMF C8 H20 N4 O4 Si

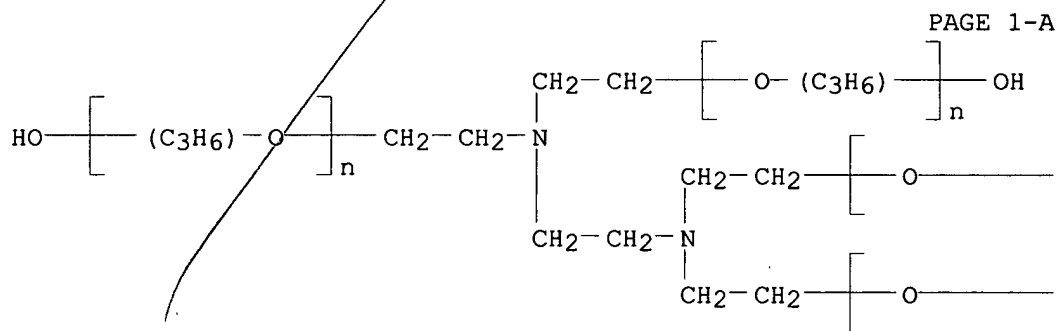


CM 2

CRN 51178-86-0

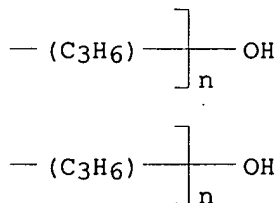
CMF (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n (C3 H6 O)_n C14 H32 N2 O4

CCI IDS, PMS



4 (D1-Me)

PAGE 1-B



CM 3

CRN 9016-87-9

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L16 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2002 ACS
 AN 1988:229670 HCAPLUS
 DN 108:229670
 TI Polyamides for heat-resistant **photosensitive** materials
 IN Imai, Yoshio; Ota, Takayuki
 PA Mitsubishi Chemical Industries Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G073-10
 ICS C08F299-02; C08G073-10; G03C001-68; G03C001-71
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 37

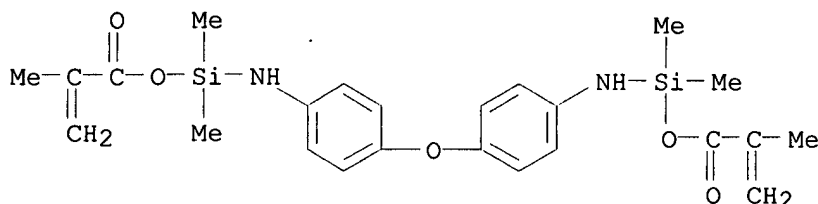
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62275129	A2	19871130	JP/1986-118590	19860523
AB	The title polymers are prepd. from tetracarboxylic dianhydrides and diamines RSiR1R2NHZNHSiR3R4R5 (Z = divalent org. group; R-R5 = aliph. or arom. group; .gtoreq.1 of R-R5 contains light- or radiation-polymerizable double bond). Polymg. 10 mmol N,N'-bis(methacryloxydimethylsilyl)-p,p'-diaminodiphenyl ether and 10 mmol pyromellitic dianhydride in N-methyl-2-pyrrolidone for 5 h gave a polyamide soln. which was mixed with Michler's ketone, spin coated on glass, dried, cured with UV light through a mask, developed, and heated 30 min at 350.degree. to give a heat-resistant relief image.				
ST	heat resistance polyamide methacrylate; polyamide methacryloxysilylamine photocuring; silylamine methacryloxy polyamide photocuring; pyromellitic methacryloxysilylamine polyamide; amine methacryloxysilyl polyamide; resist photo methacryloxysilylamine polyamide; crosslinking photo polyamide methacrylate				
IT	Photoimaging compositions and processes (bis[[(methacryloxydimethylsilyl)amino]phenyl] ether-pyromellitic dianhydride copolymers for)				
IT	Polyamides, uses and miscellaneous RL: USES (Uses) (photoresists, methacryloxysilyl group-contg.)				
IT	Resists (photo-, bis[[(methacryloxydimethylsilyl)amino]phenyl] ether-pyromellitic dianhydride copolymers for)				
IT	Crosslinking (photochem., methacryloxysilyl group-contg. polyamides for)				
IT	114690-28-7P RL: PREP (Preparation) (prepn. of photocurable, for heat-resistant relief images)				
IT	114690-28-7P RL: PREP (Preparation) (prepn. of photocurable, for heat-resistant relief images)				
RN	114690-28-7 HCAPLUS				
CN	2-Propenoic acid, 2-methyl-, oxybis[4,1-phenyleneimino(dimethylsilylene)] ester, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)				

CM 1

CRN 114690-27-6

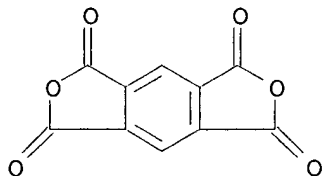
CMF C24 H32 N2 O5 Si2



CM 2

CRN 89-32-7

CMF C10 H2 O6



L16 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1988:213993 HCAPLUS

DN 108:213993

TI Positive-working **photosensitive** compositions for lithographic plates

IN Urano, Toshoshi; Tomiyasu, Hiroshi; Maeda, Yoshihiro; Nakai, Hideyuki; Goto, Sei; Sasa, Nobumasa

PA Mitsubishi Chemical Industries Co., Ltd., Japan; Konica Co.

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-72

ICS G03C001-72; G03F007-02

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62222246	A2	19870930	JP 1986-16687	19860130

AB The title comps. contain agents that **generate acids** on irradiation with light and compounds or polymers containing Si-N bonds cleaved with the acids. The comps. do not contain quinoxaline compounds and provide high sensitivity and clean, non-reddish images. Thus, a cleaned, etched, anodized, and sealed Al plate was coated with a compound containing a m,p-cresol-HCHO-phenol novolak resin 6.0, 1,1,1,3,3,3-hexamethylsilazane 0.66, 2-trichloromethyl-5-[beta-(2'-benzofuryl)vinyl]-1,3,4-oxadiazole 0.66 g, and solvents to form a 2.0 g/m² layer. Optimum exposure was 445 mJ. No stain was observed in its processing, and excellent reproduction of half-tone negative images was shown.

ST lithographic plate **photosensitive** silicon containing; silicon nitrogen compound lithographic plate

IT Phenolic resins, uses and miscellaneous
 RL: PREP (Preparation)
 (photosensitive silicon-contg. plates contg., for lithog.
 plate prepn.)

IT Lithographic plates
 (presensitized, acid-generating agents and
 nitrogen-contg. silicon compds. for)

IT 35464-74-5, m-Cresol-p-cresol-formaldehyde-phenol copolymer
 RL: USES (Uses)
 (photosensitive silicon-contg. plates contg., for lithog.
 plate prepn.)

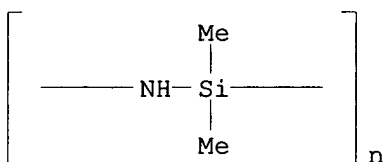
IT 996-50-9 999-97-3 2587-46-4 30175-32-7 32169-90-7
 RL: USES (Uses)
 (presensitized lithog. plates contg. acid-generating
 photolabile compd. and)

IT 114494-52-9
 RL: USES (Uses)
 (presensitized lithog. plates contg. acid-sensitive silicon compd. and)

IT 32169-90-7
 RL: USES (Uses)
 (presensitized lithog. plates contg. acid-generating
 photolabile compd. and)

RN 32169-90-7 HCAPLUS

CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



L16 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1987:587444 HCAPLUS

DN 107:187444

TI Photosolubilizable composition

IN Kamiya, Akihiko; Aoso, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF

DT Patent

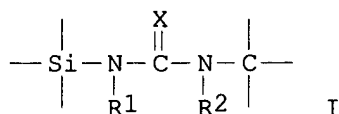
LA Japanese

IC ICM G03C001-72

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 62059949	A2	19870316	JP 1985-200326	19850910
	JP 05047097	B4	19930715		
GI					

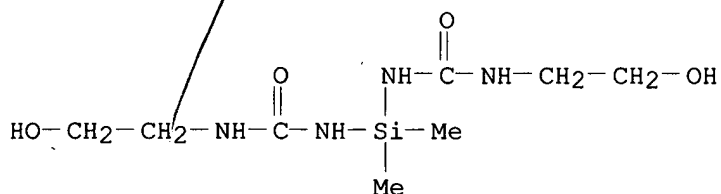


- AB The claimed photosolubilizable compn. contains a compd. which **generates** an **acid** upon exposure to actinic light and a compd. having substructure I (R1 = H, alkyl, aryl; R2 = H, alkyl, aryl; X = S, O) whose soly. increases in the presence of the acid. The pos.-working **photosensitive** compn. is esp. useful for presensitized plates and as photoresists.
- ST photosolubilizable compn presensitized lithog plate
- IT Polyethers, uses and miscellaneous
- Urethane polymers, uses and miscellaneous
- RL: USES (Uses)
- (**photosensitive** compns. contg.)
- IT Resists
- (**photo-**, **photosensitive** resin compns. contg.
- silylureido compd. polymers as)
- IT Lithographic plates
- (presensitized, **photosensitive** resin compns. contg.
- silylureido compd. polymers for)
- IT 1328-54-7, Oil Blue 603 9016-83-5 36451-09-9
- RL: USES (Uses)
- (**photosensitive** resin compns. contg. hydroxyethylureidosilane deriv. polymer and)
- IT 110783-05-6P 110783-06-7P 110783-10-3P
- RL: SPN (Synthetic preparation); PREP (Preparation)
- (prepn. and use of, as **photosensitive** material)
- IT 110783-08-9P 110783-09-0P
- RL: SPN (Synthetic preparation); PREP (Preparation)
- (prepn. of)
- IT 110783-05-6P 110783-06-7P 110783-10-3P
- RL: SPN (Synthetic preparation); PREP (Preparation)
- (prepn. and use of, as **photosensitive** material)
- RN 110783-05-6 HCAPLUS
- CN Urea, N,N'-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with 1,3-bis(isocyanatomethyl)benzene (9CI) (CA INDEX NAME)

CM 1

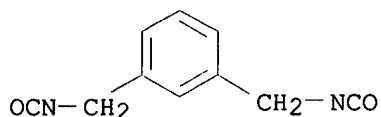
CRN 110769-43-2

CMF C8 H20 N4 O4 Si



CM 2

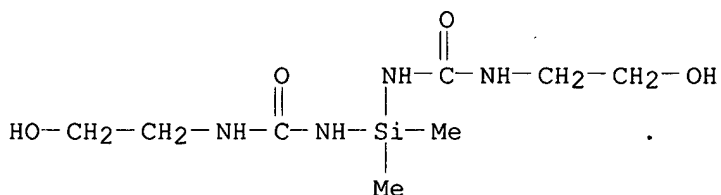
CRN 3634-83-1
CMF C10 H8 N2 O2



RN 110783-06-7 HCAPLUS
CN Urea, N,N'-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with dichlorodimethylsilane (9CI) (CA INDEX NAME)

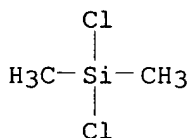
CM 1

CRN 110769-43-2
CMF C8 H20 N4 O4 Si



CM 2

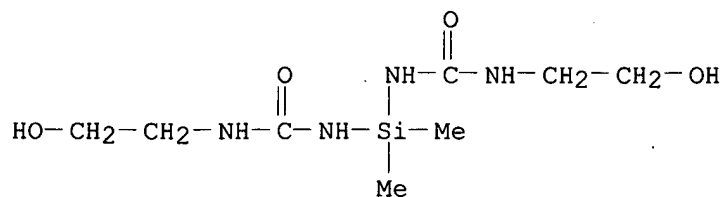
CRN 75-78-5
CMF C2 H6 Cl2 Si



RN 110783-10-3 HCAPLUS
CN Urea, N,N'-(dimethylsilylene)bis[N'-(2-hydroxyethyl)-, polymer with 1,3-bis(isocyanatomethyl)benzene and 2,2'-[oxybis(2,1-ethanedioxy)]bis[ethanol] (9CI) (CA INDEX NAME)

CM 1

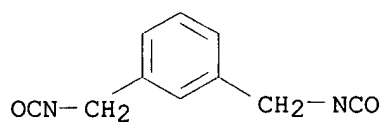
CRN 110769-43-2
CMF C8 H20 N4 O4 Si



CM 2

CRN 3634-83-1

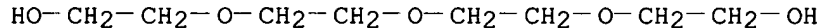
CMF C10 H8 N2 O2



CM 3

CRN 112-60-7

CMF C8 H18 O5



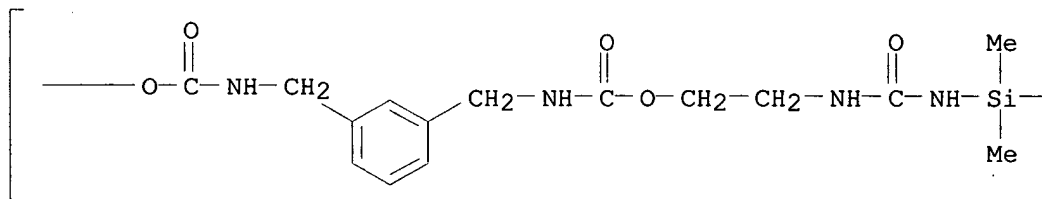
IT 110783-08-9P 110783-09-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

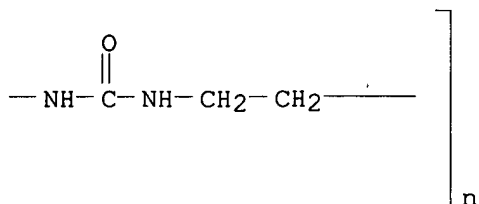
RN 110783-08-9 HCAPLUS

CN Poly[oxy-carbonyliminomethylene-1,3-phenylenemethyleneiminocarbonyloxy-1,2-ethanediyliminocarbonylimino(dimethylsilylene)iminocarbonylimino-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



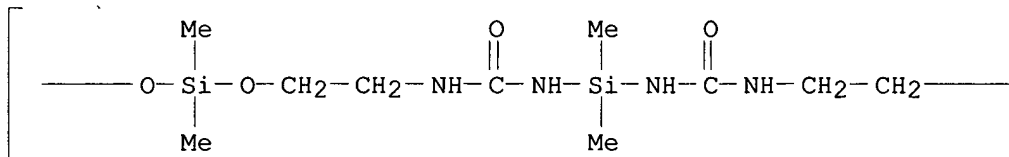
PAGE 1-B



RN 110783-09-0 HCAPLUS

CN Poly[oxy(dimethylsilylene)oxy-1,2-ethanediyliminocarbonylimino(dimethylsilylene)iminocarbonylimino-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

$$\left[\right]_n$$

L16 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1985:513359 HCAPLUS

DN 103:113359

TI Pattern-forming materials

PA Japan Synthetic Rubber Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-71

ICS G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60052845	A2	19850326	JP 1983-160259	19830902
	JP 03044290	B4	19910705		

AB Pattern-forming materials which are **sensitive** toward **light** or ionizing radiation have, as the main constituents, a polymer contg. a silyl group or groups and a compd. which generates a

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

cation or anion upon irradiation with light or ionizing radiation. The materials provide pos.- or neg.-working resists by selecting the developer soln. and exhibit good dry-etch resistance. Thus, p-vinylphenoxy-tert-butyltrimethylsilane prepolymerized from 4-vinylphenol and tert-butyltrimethylsilyl chloride was polymerized in the presence of BuLi to give a polymer. A resist containing the polymer and $\text{Ph}_3\text{S}^+\text{AsF}_6^-$ was coated on a Si wafer, patternwise irradiated with an ionizing radiation, and then developed with 2-ProH to obtain positive patterns showing high resolution.

ST **light sensitive** pattern forming material; ionizing radiation resist compound; silyl group polymer resist compound; cation generating compound resist compound; anion generating compound resist compound; photoresist silyl group polymer

IT Resists
(ion-beam, containing silyl group-containing polymer and compound generating anion or cation)

IT Resists
(photo-, containing silyl group-containing polymer and compound generating anion or cation)

IT 84494-81-5P 85967-70-0P 88683-18-5P
RL: RCT (Reactant); PREP (Preparation)
(preparation and polymerization of)

IT 75-77-4, reactions
RL: RCT (Reactant)
(reaction of, with aminostyrene)

IT 45966-73-2
RL: RCT (Reactant)
(reaction of, with hexamethyldisilazane)

IT 1520-21-4 85968-77-0
RL: RCT (Reactant)
(reaction of, with trimethylsilyl chloride)

IT 999-97-3
RL: RCT (Reactant)
(reaction of, with vinylphenethyl alc.)

IT 18162-48-6
RL: RCT (Reactant)
(reaction of, with vinylphenol)

IT 2628-17-3
RL: RCT (Reactant)
(reaction of, with tert-butyltrimethylsilyl chloride)

IT 84516-63-2 **85967-71-1** 88683-19-6
RL: USES (Uses)
(resist compounds containing.)

IT 510-13-4 97931-74-3
RL: USES (Uses)
(resist compounds containing silyl group-containing polymer and)

IT 57900-42-2
RL: USES (Uses)
(resist compounds containing silyl group-containing polymer and, positive-working)

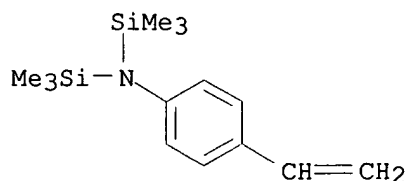
IT **85967-71-1**
RL: USES (Uses)
(resist compounds containing.)

RN 85967-71-1 HCAPLUS

CN Silanamine, N-(4-ethenylphenyl)-1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 85967-70-0
CMF C14 H25 N Si2



L16 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2002 ACS

AN 1985:430329 HCAPLUS

DN 103:30329

TI Photosolubilizable composition

IN Aoai, Toshiaki

PA Fuji Photo Film Co., Ltd. , Japan

SO Eur. Pat. Appl., 60 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 130599	A2	19850109	EP 1984-107587	19840629
	EP 130599	A3	19861015		
	EP 130599	B1	19880810		
	R: DE, FR, GB, NL				
	JP 60010247	A2	19850119	JP 1983-117769	19830629
	JP 04007502	B4	19920712		
	JP 60037549	A2	19850226	JP 1983-146095	19830810
	JP 03080298	B4	19911224		
	JP 60121446	A2	19850628	JP 1983-230377	19831206
	JP 05044664	B4	19930707		
	US 4816375	A	19890328	US 1987-44161	19870430
	US 4752552	A	19880621	US 1987-85230	19870812
PRAI	JP 1983-117769		19830629		
	JP 1983-146095		19830810		
	JP 1983-230377		19831206		
	US 1984-625079		19840627		

OS CASREACT 103:30329

AB A pos.-working photoresist compn. is described which is useful for prepn. of lithog. printing plates, proofs for multicolor printing, drawaings for overhead projectors, integrated circuits, photomasks etc. The compn. contains a compd. capable of producing an acid when irradiated with actinic rays and compd. having .gtoreq.1 silyl ether or ester group capable of being decompd. by this acid. Thus, an Al plate support was coated with a compn. contg. [(CH₂)₈OSiMe₂O]_n (no. av. mol. wt. 1400-2000) 0.31, cresol-HCOH novolak resin 1, 1,2-naphthoquinone-2-diazido-4-sulfonyl chloride 0.05, Oil Blue 603 0.01, ethylene dichloride 10, the cellosolve 10 g, imagewise exposed and developed in aq. DP-3B developer. The plate show high **photosensitivity**.

ST photosolubilizable imaging compn lithog plate; photoresist pos compn silyl ether; photoimaging photosolubilizable compn silyl ether; printing proof photosolubilizing compn; elec circuit photosolubilizing compn; photomask lithog photosolubilizing compn

IT Lithographic plates

Photomasks
 (photosolubilizable compn. for prepn. of, contg. **photosensitive**
 acid-forming compd. and compd. contg. silyl ether or silyl ester group)

IT Electric circuits
 Photoimaging compositions and processes
 (photosolubilizable compn. for, contg. **photosensitive**
 acid-forming compd. and compd. contg. silyl ether or silyl ester group)

IT Phenolic resins, uses and miscellaneous
 Siloxanes and Silicones, uses and miscellaneous
 RL: USES (Uses)
 (photosolubilizable imaging compn. contg.)

IT Printing
 (color, photosolubilizable compn. for proofing in)

IT Resists
 (photo-, photosolubilizable compn. for prepn. of, contg.
photosensitive acid-forming compd. and compd. contg. silyl
 ether or silyl ester group)

IT 90-94-8 602-56-2 1328-54-7 3584-23-4 17937-66-5 26745-05-1
 30281-72-2 36451-09-9 68541-73-1 71255-80-6 84938-98-7
 96758-27-9 96758-28-0 96758-29-1 96758-30-4 96758-31-5
 96758-32-6 96758-33-7 96758-34-8 96758-35-9 96758-36-0
 96758-38-2 96758-39-3 96787-64-3 96788-79-3 96859-92-6
 96859-93-7 97009-84-2
 RL: USES (Uses)
 (photosolubilizable imaging compn. contg., for printing plates prepn.)

IT 9016-83-5
 RL: USES (Uses)
 (photosolubilizable imaging compn. for printing plates prepn. contg.)

IT 2078-12-8P 18105-31-2P **96758-41-7P** 96758-42-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and application of, for photosolubilizable imaging compns., for
 lithog. plate fabrication)

IT 879-15-2P 25237-79-0P
 RL: PREP (Preparation)
 (prepn. of, for photosolubilizable imaging compns.)

IT **96758-41-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and application of, for photosolubilizable imaging compns., for
 lithog. plate fabrication)

RN 96758-41-7 HCAPLUS

CN Formaldehyde, polymer with chlorotrimethylsilane, 3-methylphenol and
 1,1,1-trimethyl-N-(trimethylsilyl)silamine (9CI) (CA INDEX NAME)

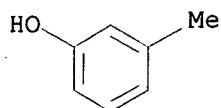
CM 1

CRN 999-97-3
 CMF C6 H19 N Si2

Me₃Si-NH-SiMe₃

CM 2

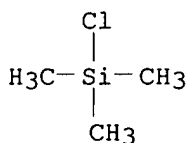
CRN 108-39-4
 CMF C7 H8 O



CM 3

CRN 75-77-4

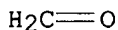
CMF C3 H9 Cl Si



CM 4

CRN 50-00-0

CMF C H2 O



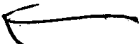
=> D QUE

L3

STR

Si~N

1 2



*limited to SR4
or homopolymer
622 polymers*

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE

L5

SCR 2043

L7

2049 SEA FILE=REGISTRY SSS FUL L3 AND L5

L8

1252 SEA FILE=HCAPLUS ABB=ON L7

L9

32 SEA FILE=HCAPLUS ABB=ON L8 AND (PHOTOSENSIT? OR PHOTO?(3A)?SEN
SITIV? OR LIGHT?(3A)?SENSITIV?)

L12

65 SEA FILE=HCAPLUS ABB=ON L8 AND POLYSILAZAN?/IT

L13

253 SEA FILE=HCAPLUS ABB=ON L8 AND SILAZAN?/IT

L14

3 SEA FILE=HCAPLUS ABB=ON (L12 OR L13) AND ?ACID?(3A)?GENERAT?

L15

9 SEA FILE=HCAPLUS ABB=ON L8 AND ?ACID?(3A)?GENERAT?

L16

33 SEA FILE=HCAPLUS ABB=ON L9 OR L14 OR L15

L17

403 SEA FILE=REGISTRY ABB=ON L7 AND 1/NC

L18

622 SEA FILE=HCAPLUS ABB=ON L17

L19 205 SEA FILE=HCAPLUS ABB=ON L18 AND (SILAZANE?/IT OR POLYSILAZANE?
/IT)
L21 12 SEA FILE=HCAPLUS ABB=ON L19 AND PHOTOCHEM?/SC, SX
L24 5 SEA FILE=HCAPLUS ABB=ON L19 AND PHOTORESIST?
L25 12 SEA FILE=HCAPLUS ABB=ON L21 OR L24
L26 7 SEA FILE=HCAPLUS ABB=ON (L16 OR L25) NOT L16

=> D L26 ALL 1-7 HITSTR

L26 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:863913 HCAPLUS

DN 134:50225

TI Insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof

IN Yamaguchi, Jo; Fukuyama, Shunichi; Nakata, Yoshihiro; Suzuki, Katsuki

PA Fujitsu Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01L021-312

ICS H01L021-312; C07F007-04; C08G077-62; C08L083-16

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 38, 74

FAN.CNT 1

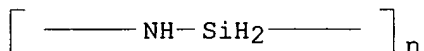
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000340557	A2	20001208	JP 1999-150102	19990528
AB	The title low dielec. and reliable insulator film-forming materials are silazane polymers (-SiR1R2-NR3-)n (R1,R2,R3= H, alkyl, alkenyl, cycloalkyl, aryl) or silicon compds. SiR1R2R3R4 (R1,R2,R3,R4= H, alkoxy, hydroxyl, heterocyclic hydrocarbons). The title fabrication involves coating the silazane or the silicon compds. insulator material over a substrate surface, heating the coated film to cure, irradiating light or heat on the film to evap. the alicyclic hydrocarbon groups out of the coated layer to give the insulator films porosity.				
ST	silazane polymer coating insulator film semiconductor device; silicon compd coating insulator film semiconductor device				
IT	Silazanes RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (polymer, elec. insulators; insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof)				
IT	Electric insulators (polysilazanes , silicon compd.; insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof)				
IT	281-23-2D, Adamantane, diphenol deriv., copolymer with perhydropolysilazane 149013-47-8 , Perhydropolysilazane 312961-22-1, Adamantylphenol-perhydropolysilazane copolymer RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses) (coating material for insulator film; insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof)				
IT	7440-21-3D, Silicon, compds., properties RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (elec. insulators; insulator filming materials. formation of insulator				

films, and semiconductor devices using insulators thereof)

IT 7631-86-9P, Silica, properties
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (porous insulator film; insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof)

IT 149013-47-8, Perhydropolysilazane
 RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (coating material for insulator film; insulator filming materials. formation of insulator films, and semiconductor devices using insulators thereof)

RN 149013-47-8 HCAPLUS
 CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L26 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2002 ACS
 AN 2000:501865 HCAPLUS
 DN 133:112504
 TI Manufacture of polysiloxane fine particles and liquid crystal display device using the particles as spacers
 IN Ishikubo, Takafumi; Nakayama, Kazuhiro; Koyanagi, Tsugio; Komatsu, Michio
 PA Catalysts and Chemicals Industries Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08J003-16
 ICS C08G077-06; C08G077-14; G02F001-1339
 CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000204168	A2	20000725	JP 1999-318360	19991109
PRAI	JP 1998-317554	A	19981109		

AB The fine particles are manufd. by adding $\text{R}_1\text{nSi}(\text{OR}_2)_{4-\text{n}}$ [I; $\text{R}_1 = \text{C}_1\text{-10 org. group as (substituted) hydrocarb.}; \text{R}_2 = \text{H, C}_1\text{-10 alkyl, C}_1\text{to req. 10 alkoxyalkyl, C}_1\text{to req. 10 acyl}; \text{n} = 0\text{-}3]$ in a liq. dispersion of seed particles having hydrophobic surface assocd. with a surfactant in the presence of alkali so that hydrolyzed I is polymd. on the seed particles. The particles with small coeff. of variation of particle diam. are used as spacers in a liq. crystal display providing a uniform image.

ST polysiloxane fine particle liq crystal display; spacer polysiloxane particle liq crystal display; hydrophobic surface seed particle alkoxy silane polymn

IT Surfactants
 (anionic; in manuf. of polysiloxane particles by polymn. of alkoxy silane on hydrophobic seed particle for space in liq. crystal display)

IT Polymerization
 (emulsion; manuf. of polysiloxane particles by polymn. of alkoxy silane

- on hydrophobic seed particle for space in liq. crystal display)
- IT Liquid crystal displays
(manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT **Silazanes**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(seed particles; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(seed particles; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT Polymerization
(seed; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT 100-42-5D, Styrene, polymers
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinked, seed particles; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT 25498-03-7P, Methyltrimethoxysilane homopolymer 153315-80-1P, Methyltrimethoxysilane homopolymer, sru
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(seed particle core; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT **27495-70-1P**, Hexamethyldisilazane homopolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(seed particles; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT 68973-78-4, Sodium octylnaphthalenesulfonate
RL: NUU (Other use, unclassified); USES (Uses)
(surfactant; in manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- IT **27495-70-1P**, Hexamethyldisilazane homopolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(seed particles; manuf. of polysiloxane particles by polymn. of alkoxysilane on hydrophobic seed particle for space in liq. crystal display)
- RN 27495-70-1 HCAPLUS
- CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 999-97-3
CMF C6 H19 N Si2

Me₃Si-NH-SiMe₃

L26 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:464700 HCAPLUS

DN 133:81494

TI Surface-treating agent for formation of undercoat for photocatalyst coating and formation of photocatalyst coating

IN Kitamura, Atsushi; Shimofukikoshi, Mitsuhide

PA Toto Kiki K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B01J021-06

ICS B01J019-12; B01J035-02

CC 74-1 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000189795	A2	20000711	JP 1998-376710	19981226
AB	The surface-treating agent contains perhydropolysilazane. The photocatalyst coating is formed by the following steps: (1) applying the surface-treating agent on a substrate, (2) applying a photocatalyst coating soln. on the surface-treating layer, and (3) irradiating UV light to the substrate for photocatalytic oxidn. on the surface of the surface-treating layer to form a SiO ₂ film. Alternatively, the SiO ₂ film is formed by reaction between perhydropolysilazane and heated H ₂ O mols. before the application of the photocatalyst coating soln. The surface-treating agent is useful for treating substrates which is easy to be oxidized by photocatalyst or has low wettability to photocatalyst coating soln.				
ST	perhydropolysilazane surface treating agent photocatalyst coating; UV irradsn perhydropolysilazane silica undercoat photocatalyst				
IT	Silazanes RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses) (N-D 810, N-D 820; surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)				
IT	Photolysis catalysts UV radiation (surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)				
IT	13463-67-7, Titania, processes RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)				
IT	7631-86-9P, Silica, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				

(surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)

IT 149013-47-8, Perhydropolysilazane

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)

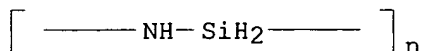
IT 149013-47-8, Perhydropolysilazane

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(surface-treating agent contg. perhydropolysilazane for formation of silica undercoat for photocatalyst coating)

RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L26 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:772365 HCAPLUS

DN 132:28722

TI Method for mass production of father stampers for optical discs

IN Morita, Seiji

PA Nikon Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C045-26

ICS B29C033-38; G11B007-24; G11B007-26; B29L017-00

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 57

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11333885	A2	19991207	JP 1999-76841	19990319
PRAI	JP 1998-80624	A	19980327		

AB Method for prodn. of precise father stampers comprises the steps of (a) prepg. a ceramic substrate with pattern structure (e.g., quartz), (b) forming a father stamper on the substrate by plating (e.g. Ni plating layer), (c) peeling of the stamper from the substrate, (d) repeating the steps of (b) and (c).

ST optical disk substrate father stamper prepn; ceramic father stamper optical disk prepn

IT Optical ROM disks

(method for mass prodn. of father stampers for optical disks)

IT Silazanes

RL: TEM (Technical or engineered material use); USES (Uses)

(primer, substrate coated with; method for mass prodn. of father stampers for optical disks)

IT Primers (paints)

(substrate coated with; method for mass prodn. of father stampers for optical disks)

IT Ceramics

(substrate; method for mass prodn. of father stampers for optical disks)

IT 7440-02-0, Nickel, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (plating layer; method for mass prodn. of father stampers for optical disks)

IT 27495-70-1, Hexamethyldisilazane homopolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (primer, substrate coated with; method for mass prodn. of father stampers for optical disks)

IT 14808-60-7, Quartz, processes
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (substrate; method for mass prodn. of father stampers for optical disks)

IT 27495-70-1, Hexamethyldisilazane homopolymer
 RL: TEM (Technical or engineered material use); USES (Uses)
 (primer, substrate coated with; method for mass prodn. of father stampers for optical disks)

RN 27495-70-1 HCAPLUS

CN Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 999-97-3

CMF C6 H19 N Si2

Me₃Si-NH-SiMe₃

L26 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:75294 HCAPLUS

DN 126:257418

TI Direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their new application to hard-mask processes

AU Morisawa, Taku; Fukuda, Hiroshi

CS Central Research Laboratory, Hitachi, Ltd., Tokyo, 185, Japan

SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1996), 35(12B), 6366-6369

CODEN: JAPNDE; ISSN: 0021-4922

PB Japanese Journal of Applied Physics

DT Journal

LA English

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 74

AB Several spin-on-glass (SOG) materials were examd. as single layer resists for ArF excimer laser lithog., with the goal of directly forming a hard mask from these materials for dry-etching underlying metal films. Perhydro-silazane (PHSN) was found to be photo-reactive at 193 nm wavelength as well as polyphenylmethyl-silsesquioxane (PMSQ) and polyhydroxybenzyl-silsesquioxane (HSQ), which we have reported previously. These materials showed a sufficient resoln. performance and sensitivity at 193 nm. The Fourier-transform IR (FTIR) and X-ray photoelectron spectrometry (XPS) analyses showed that the basic reaction is photo-oxidn., though the imaging mechanism in each material is quite different. The etching resistance of these materials was significantly improved by special treatment after patterning, whereas those without the

~ PAC

treatment were insufficient. For example, etching rate of PHSN after baking in steam ambient was comparable to that for CVD SiO₂ in RIE using SF₆ gas. 0.2 .mu.M patterns were transferred into poly-Si films by dry-etching using these materials as hard masks.

ST resist laser lithog mask integrated circuit; polymer resist laser lithog mask

IT Annealing

Integrated circuits

Laser radiation

Photomasks (lithographic masks)

Resists

Silazanes

Silsesquioxanes

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT Sputtering

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(etching, reactive; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT Etching

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(sputter, reactive; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT Lithography

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(submicron; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT 92068-44-5 188557-77-9 188629-68-7

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT 7440-21-3, Silicon, processes

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(dry etching; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT 2551-62-4, Sulfur hexafluoride

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(etchant; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

IT 90387-00-1 149013-47-8, Poly[(imino)(silylene)]

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(resist; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

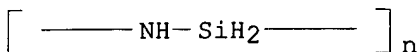
IT 149013-47-8, Poly[(imino)(silylene)]

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(resist; direct patterning of spin-on-glass materials by ArF excimer laser irradiation and their application to hard-mask processes)

RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L26 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:503390 HCAPLUS

DN 123:172877

TI Liquid coating compositions forming silica-type films and their use

IN Nakajima, Akira; Komatsu, Michio; Takahashi, Yoshinori

PA Catalysts & Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D183-16

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07034036	A2	19950203	JP 1993-183052	19930723
	JP 3139230	B2	20010226		
AB	The title compns., giving coatings with good adhesion, toughness, and chem. resistance on semiconductor devices, liq.-cryst. imaging devices, etc., contain reaction products of silazanes contg. repeating units SiR ₁ R ₂ NR ₃ (R ₁ -3 = H, C1-8 alkyl) (and acids and/or esters R ₄ CO ₂ R ₅ (R ₄ = C1-30 hydrocarbonyl; R ₅ = H, C1-20 hydrocarbonyl). Adding Cl ₂ SiH ₂ to pyridine, adding NH ₃ , filtering, heating at 80.degree., and evapg. pyridine gave a silazane which was mixed with xylene and linoleic acid, heated at 80.degree., and evapd. to give a silazane comprising Si 61.5, N 25.4, H 5.4, and C 7.5% and having wt.-av. mol. wt. 2300. A soln. of the silazane in xylene was spin coated on a Si wafer, dried at 150.degree., and sintered at 350.degree. to give an alkali- and crack-resistant coating comprising 33.3% Si and 66.6% O.				
ST	silazane sintering silica coating semiconductor; liq crystal device coating silica; carboxylic acid silazane sintering silica coating; linoleic silazane sintering silica coating; imaging device coating silica				
IT	Coating materials (silica; sintering of silazane -carboxylic acid mixts. for prepn. of)				
IT	Semiconductor devices (sintering of silazanes with carboxylic acids and esters for prepn. of silica coatings on)				
IT	Carboxylic acids, uses RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (sintering with silazanes for prepn. of silica coatings on semiconductor devices and liq.-cryst. imaging devices)				
IT	Optical imaging devices (liq.-crystal, sintering of silazanes with carboxylic acids and esters for prepn. of silica coatings on)				
IT	60-33-3DP, Linoleic acid, reaction products with ammonia-dichlorosilane copolymer 112-80-1DP, Oleic acid, reaction products with ammonia-methyldichlorosilane copolymer 624-48-6DP, Dimethyl maleate, reaction products with ammonia-methyldichlorosilane copolymer 90387-00-1DP, Ammonia-dichlorosilane copolymer, reaction products with				

linoleic acid 94422-34-1DP, reaction products with oleic acid
105009-41-4DP, Poly[imino(methylsilylene)], reaction products with
 oleic acid **149013-47-8DP**, Ammonia-dichlorosilane copolymer, sru,
 reaction products with linoleic acid

RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)

(sintering for prepn. of silica coatings on semiconductor devices and
 liq.-cryst. imaging devices)

IT 7440-21-3, Silicon, uses

RL: DEV (Device component use); MSC (Miscellaneous); USES (Uses)
 (wafers; sintering of **silazane**-carboxylic acid mixts. for
 prepn. of silica coatings on)

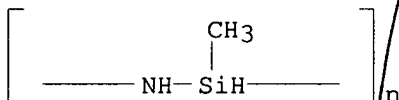
IT **105009-41-4DP**, Poly[imino(methylsilylene)], reaction products with
 oleic acid **149013-47-8DP**, Ammonia-dichlorosilane copolymer, sru,
 reaction products with linoleic acid

RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)

(sintering for prepn. of silica coatings on semiconductor devices and
 liq.-cryst. imaging devices)

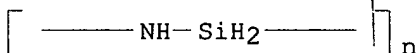
RN 105009-41-4 HCAPLUS

CN Poly[imino(methylsilylene)] (9CI) (CA INDEX NAME)



RN 149013-47-8 HCAPLUS

CN Poly[(imino)(silylene)] (9CI) (CA INDEX NAME)



L26. ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2002 ACS

AN 1994:178170 HCAPLUS

DN 120:178170

TI Spin on oxygen reactive ion etch barrier

IN Agostino, Peter A.; Giri, Ajay P.; Hiraoka, Hiroyuki; Willson, Carlton G.;
 Dawson, Daniel J.

PA International Business Machines Corp., USA

SO U.S., 7 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM G03F007-26

NCL 430313000

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and
 Other Reprographic Processes)

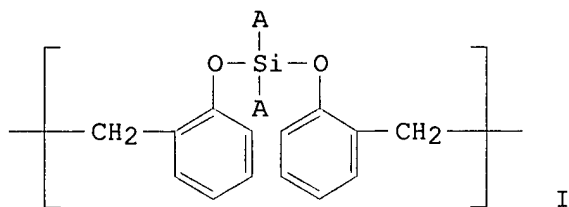
Section cross-reference(s): 76

FAN.CNT 1

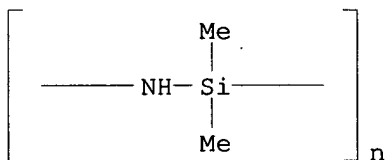
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5270151	A	19931214	US 1992-852865	19920317

no PAG

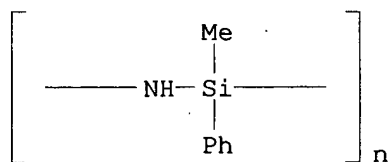
GI



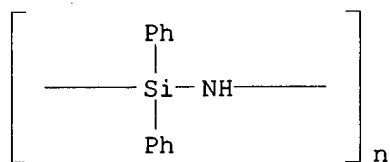
- AB Reaction products I [A = Me or Ph] of organosilane compds. or polydiphenylsilazane compds. and a novolak resin having phenolic groups can be used as O RIE barrier materials in semiconductor etching processes. These materials have low O-etching rates and can be spun on to form crack-free thick layers.
- ST oxygen etching barrier **photoresist**; RIE barrier semiconductor patterning
- IT Semiconductor devices
(RIE barrier in prodn. of, siloxane compd. as)
- IT Resists
(photo-, oxygen etching barrier for, siloxane compd. as)
- IT 75-78-5D, reaction product with Alnovol PN430 80-10-4D, reaction product with Alnovol PN430 149-74-6D, Methylphenyldichlorosilane, reaction product with Alnovol PN430 9003-35-4D, Alnovol PN430, reaction product with silanes and **silazanes 32169-90-7D**, Poly[imino(dimethylsilylene)], reaction product with Alnovol PN430 **110933-74-9D**, Poly[imino(methylphenylsilylene)], reaction product with Alnovol PN430 **153340-09-1D**, Poly[imino(diphenylsilylene)], reaction product with Alnovol PN430
RL: USES (Uses)
(RIE barrier from, in prodn. of semiconductor devices)
- IT **32169-90-7D**, Poly[imino(dimethylsilylene)], reaction product with Alnovol PN430 **110933-74-9D**, Poly[imino(methylphenylsilylene)], reaction product with Alnovol PN430 **153340-09-1D**, Poly[imino(diphenylsilylene)], reaction product with Alnovol PN430
RL: USES (Uses)
(RIE barrier from, in prodn. of semiconductor devices)
- RN 32169-90-7 HCAPLUS
- CN Poly[imino(dimethylsilylene)] (8CI, 9CI) (CA INDEX NAME)



- RN 110933-74-9 HCAPLUS
- CN Poly[imino(methylphenylsilylene)] (9CI) (CA INDEX NAME)



RN 153340-09-1 HCAPLUS
 CN Poly[imino(diphenylsilylene)] (9CI) (CA INDEX NAME)



=> d l34 1-6 cbib abs hitstr hitind

- L34 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
2002:330752 Document No. 137:55387 A **photosensitive** low-k interlayer-dielectric film for ULSIs. Kikkawa, Takamaro (Research Center for Nanodevices and Systems, Hiroshima University, Higashi-Hiroshima, Japan). Proceedings - International Conference on Solid-State and Integrated Circuit Technology, 6th, Shanghai, China, Oct. 22-25, 2001, Volume 1, 348-351. Editor(s): Li, Bing-Zong. Institute of Electrical and Electronics Engineers: New York, N. Y. ISBN: 0-7803-6520-8 (English) 2001. CODEN: 69CNW6.
- AB A **photosensitive** interlayer dielec. film was developed for a future ULSI multilevel interconnect technol. A **photosensitive methylsilsesquiazane** with a low-dielec. const. was synthesized. It could be patterned by use of either electron beam lithog. or UV lithog. It is demonstrated that the smallest feature size of 50 nm for damascene lines and via holes could be directly patterned in the films by the electron beam lithog.
- CC 76-3 (Electric Phenomena)
ST **photosensitive** low k interlayer dielec ULSI
IT Electric insulators
(low-k; **photosensitive** low-k interlayer-dielec. film for ULSIs)
IT Integrated circuits
Light-sensitive materials
(**photosensitive** low-k interlayer-dielec. film for ULSIs)
IT Silazanes
(**photosensitive** low-k interlayer-dielec. film for ULSIs)
- L34 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
2002:172252 Document No. 136:224212 **Photosensitive** polysilazane composition, method of forming pattern therefrom, and method of sintering coating film thereof. Nagahara, Tatsuro; Matsuo, Hideki (Clariant International Ltd., Switz.). PCT Int. Appl. WO 2002019037 A1 20020307, 67 pp. DESIGNATED STATES: W: CN, KR, SG, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2001-JP7251 20010824. PRIORITY: JP 2000-262703 20000831; JP 2000-268510 20000905; JP 2000-297107 20000928.
- AB A pos. **photosensitive** polysilazane compn. comprises: a modified **silsesquiazane** having basic structural units represented by the general formula -[SiR₆(NR₇)_{1.5}]-, contg. other structural units represented by the general formula -[SiR₆2NR₇]- and/or [SiR₆3(NR₇)_{0.5}]- (R₆-7 = H, C1-3 alkyl, or (un)substituted phenyl) in an amt. of 0.1-100 mol based on the basic structural units, and having a no. av. mol. wt. of 100-100,000; and a **photo-acid generator**. It preferably contains a water-sol. compd. as a shape stabilizer. The compn. is applied to a substrate and pattern-wise exposed to light. The

coating process film exposed is moistened and then developed with an aq. alkali soln. The resultant pattern is wholly exposed to light, subsequently moistened again, and then burned. Thus, a fine silica-based ceramic film which has satisfactory properties and is suitable as an interlayer dielec. is formed in a short time.

- IC ICM G03F007-38
ICS G03F007-40; G03F007-075; G03F007-004; C08L083-16; C08K005-3492; C08K005-42
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 57, 76
- ST **photosensitive** polysilazane compn sintering coating film
- IT Dielectric films
Photoresists
(**photosensitive** polysilazane compn., method of forming pattern therefrom, and method of sintering coating film thereof)
- IT Polysiloxanes, preparation
(reaction product with ammonia; polysilazane in **photosensitive** polysilazane compn.)
- IT Silazanes
(**silsesquiazanes**; **photosensitive** polysilazane compn., method of forming pattern therefrom, and method of sintering coating film thereof)
- IT 71255-78-2 82424-53-1, Benzeneacetonitrile, 4-methoxy-.alpha.-
[[[(4-methylphenyl)sulfonyl]oxy]imino]- 128553-67-3
(**photo-acid generator** in **photosensitive** polysilazane compn.)
- IT 7664-41-7DP, Ammonia, reaction product with silsesquioxane
402570-03-ODP, Methyltrichlorosilane-Dimethyldichlorosilane-Trimethylchlorosilane hydrolytic copolymer, reaction product with ammonia
(polysilazane in **photosensitive** polysilazane compn.)
- IT 79-46-9, 2-Nitropropane 88-74-4, 2-Nitroaniline 108-32-7,
Propylene carbonate 9003-04-7, Aron A 20P
(shape stabilizer in **photosensitive** polysilazane compn.)
- L34 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
2001:753095 Document No. 135:310926 Modified
polysilsesquiazanes, their **photosensitive** compositions, and manufacture of their patterned films: Nagahara, Tatsuo; Matsuo, Hideki (Tonengeneral Sekiyu K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2001288270 A2-20011016, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-108023 20000405.
- AB The **polysilsesquiazanes** with no.-av. mol. wt. 100-100,000 comprise (A) SiR1(NR2)1.5 units and (B) 0.1-100 mol% SiR12NR2 and/or SiR13(NR2)0.5 units [R1 = C1-3 alkyl, (un)substituted Ph; R2 = H, C1-3 alkyl, (un)substituted Ph]. The **photosensitive** compns. showing good storage stability contain the **polysilsesquiazanes** and **photoacid** generators selected from sulfoximes and triazines. The patterned films are manufd. by applying the compns., patternwise irradiating the

resulting films with light, and dissolving the irradiated parts of the films. The films are useful for substitutes for Si-contg. resists because of high resistance to O plasma. SiO₂-based ceramic films as interlayer insulating films are obtained by firing or keeping the films for a long time.

- IC ICM C08G077-62
ICS C08K005-3492; C08K005-42; C08L083-16; G03F007-004; G03F007-039; G03F007-075; H01L021-027; H01L021-312
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
- ST **polysilsesquiazane** photoresist storage stability; sulfoxime **photoacid** generator **polysilsesquiazane** photoresist storage stability; triazine **photoacid** generator **polysilsesquiazane** photoresist storage stability; elec insulating film patterning **polysilsesquiazane** photoresist
- IT Dielectric films
Photoresists
(modified **polysilsesquiazanes** for photoresists with good storage stability)
- IT Silazanes
(**silsesquiazanes**; modified **polysilsesquiazanes** for photoresists with good storage stability)
- IT 29933-95-7P, Dichlorodimethylsilane-methyltrichlorosilane copolymer
33113-88-1P, Methyltrichlorosilane-chlorotrimethylsilane copolymer
(modified **polysilsesquiazanes** for photoresists with good storage stability)
- IT 949-42-8 3584-23-4 145531-11-9 366781-17-1
(**photoacid** generators; modified **polysilsesquiazanes** for photoresists with good storage stability)
- L34 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
1995:506210 Document No. 122:242746 Preparation of polyorgano(stearoyloxy)**silsesquiazanes** as fatty water repellents for semifinished fur products. Izmajlov, Boris A.; Kalacheva, Olga I.; Romanov, Yuriy A.; Kamaritskij, Boris A.; Ovchinnikov, Valerij A.; Mikhajlov, Valentin M.; Tikhvinskij, Sergej S. (Moskovskij Tekhnologicheskij Institut Legkoj Promyshlennosti, USSR). U.S.S.R. SU 1808834 A1 19930415 From: Izobreteniya 1993, (14), 92-3. (Russian). CODEN: URXXAF. APPLICATION: SU 1991-4936934 19910520.
- AB The Me stearoyloxysilsequiazanes optionally contg. Ph or vinyl groups for waterproofing of furs are prepd. by condensation of **polyorganosilsesquiazanes** with stearic acid added in 4 equal parts at 180-200.degree..
- IC ICM C08G077-62
ICS C14C009-02
- CC 45-2 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
- ST **silsesquiazane** condensate stearic acid; fur waterproofing agent **silsesquiazane**

- IT **Silsesquiazanes**
(fatty water repellents for semifinished fur products)
- IT Fur
(semifinished; polyorgano(stearoyloxy)**silsesquiazanes**
as fatty water repellents)
- IT 57-11-4D, Stearic **acid**, reaction **products** with
Me **silsesquiazanes**
(fatty water repellents for semifinished fur products)
- L34 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
1989:77211 Document No. 110:77211 Synthesis and properties of
peroxyoligoorganosilazanes. Yablokova, N. V.; Aleksandrov,
Yu. A.; Ivanov, V. I.; Shekhter, S. M. (Nauchno-Issled. Inst. Khim.,
Gor'k. Gos. Univ., Gorkiy, USSR). Vysokomolekulyarnye Soedineniya,
Seriya B: Kratkie Soobshcheniya, 30(10), 762-5 (Russian) 1988.
CODEN: VYSBAI. ISSN: 0507-5483.
- AB Oligomeric **peroxy**-terminated silazanes
{[RSi(NH)1.5]3SiMe2OOR1}2 (I; R = Me, vinyl; R1 = CMe3, CMe2Ph),
which decomp. at 413-453 K by a radical mechanism, were prepd. as
potential vulcanization catalysts for siloxanes and silazanes. The
vinyl derivs. were less stable than the Me analogs. Kinetics
parameters and activation energies for decompn. of I in nonane,
methylsilsesquiazane-dimethylsilazane, and
vinylsilsesquiazane-dimethylsilazane are given.
Crosslinking was obsd. during decompn. in the presence of the
silsesquiazane-silazanes.
- CC 39-2 (Synthetic Elastomers and Natural Rubber)
- ST **peroxy** silazane vulcanization catalyst;
silsesquiazane peroxy vulcanization catalyst;
kinetics decompn **peroxy silsesquiazane**
- IT Kinetics of thermal decomposition
(of **peroxy**-terminated **silsesquiazanes**)
- IT Vulcanization accelerators and agents
(**peroxy**-terminated **silsesquiazanes**, prepn.
and decompn. kinetics of)
- IT **Silsesquiazanes**
(organo, **peroxy**-terminated, vulcanization catalysts,
prepn. and decompn. kinetics of)
- IT **Silsesquiazanes**
(silazane-, vulcanization catalysts for, **peroxy**
-terminated **silsesquiazanes** as)
- IT Silazanes
(**silsesquiazane**-, vulcanization catalysts for,
peroxy-terminated **silsesquiazanes** as)
- L34 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS on STN
1986:188319 Document No. 104:188319 Polysilazane coatings. Ito,
Kunio; Kosakai, Shohei; Shimizu, Hisashi; Hinoto, Yuji; Yoshioka,
Hiroshi (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai
Tokkyo Koho JP 60221470 A2 19851106 Showa, 6 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1984-77155 19840417.
- AB A siloxane-silazane or silazane [R1aSi(NH)4-a/2]m(R2bSiO4-b/2)n (R1,

R2 = org. group; a = 0-1.5; b = 0.1.5; m .gtoreq.1; n .gtoreq.0) is room-temp.-curable and gives an abrasion-resistant coating layer with high adhesion to a substrate in the absence of a primer. Thus, 20 g CH₃SiCl₃ in 200 mL CH₂Cl₂ was treated with ammonia at .ltoreq.15.degree. for 3 h to give an polysilazane. When coated on an acrylic polymer molding and cured at room temp. for 72 h, the resulting layer exhibited crosscut adhesion test (ASTM D 3359) 5 maintenance of transparency after steel wool-rubbing.

IT 101992-22-7

(coatings, room-temp.-curable, abrasion-resistant, with high adhesion to plastics)

RN 101992-22-7 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si

Cl₃Si-CH₂-CH₂-(CF₂)₇-CF₃

CM 2

CRN 7664-41-7

CMF H3 N

NH₃

IC ICM C09D003-82

ICA C08G077-54; C08J007-04

CC 42-10 (Coatings, Inks, and Related Products)

IT 101992-18-1 101992-19-2

(coatings, **UV-curable**, abrasion-resistant, with high adhesion to plastics)

IT 29797-90-8 101992-21-6 101992-22-7

(coatings, room-temp.-curable, abrasion-resistant, with high adhesion to plastics)

=> d l35 1-15 cbib abs hitstr hitind

L35 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2002:10044 Document No. 136:71323 Silicone compound-containing surface treating agents and water- and oil-repellent easily-cleanable articles obtained from the treatment. Asai, Mitsuo; Uehara, Hitoshi (Shin-Etsu Chemical Co., Ltd., Japan). Eur. Pat. Appl. EP 1167480

A2 20020102, 13 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-305483 20010625. PRIORITY: JP 2000-196928 20000629.

AB The agents comprise the reaction product obtained by reacting with ammonia a mixt. of (A) an organosilicon compd. $R_fSiR_1aX_3-a$ (R_f = C1-12 fluorinated org. group; R_1 = C1-10 hydrocarbyl group; X = halogen; a = 0, 1, 2) and (B) an organosilicone compd. having a hydrolyzable group. The treating agents are useful for protecting surfaces of, e.g., glass, lens, plastic film, etc. Thus, mixing (A) 1 part a 3% m-xylene hexafluoride soln. of $C_4F_9C_2H_4Si(NH)_3/2$ synthesized by reacting $C_2F_9C_2H_4SiCl_3$ with NH_3 , with (B) 1 part a 3% m-xylene hexafluoride soln. of $Me_3SiO(SiMe_2O)_9Si(NH)_3/2$ synthesized by reacting $Me_3SiO(SiMe_2O)_9SiCl_3$ with NH_3 gave a coating which formed a coat film on glass surface with water contact angle 102.1.degree. and hexadecane contact angle 78.1.degree. and leaving no residue of finger print after wiping.

IT 101992-22-7 384820-33-1 384820-35-3
(mixt.; silicone compd.-contg. surface treating agents and water- and oil-repellent easily-cleanable articles obtained from treatment)

RN 101992-22-7 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si

$Cl_3Si-CH_2-CH_2-(CF_2)_7-CF_3$

CM 2

CRN 7664-41-7

CMF H3 N

NH_3

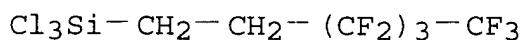
RN 384820-33-1 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,6-nonafluorohexyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 78560-47-1

CMF C6 H4 Cl3 F9 Si



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

RN 384820-35-3 HCAPLUS

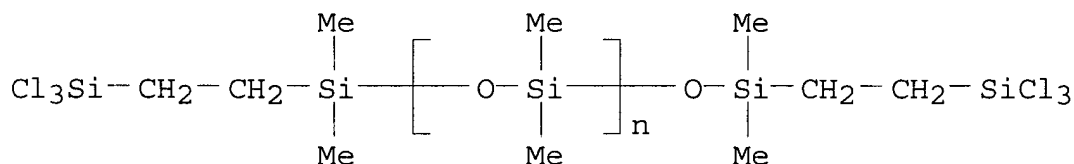
CN Poly[oxy(dimethylsilylene)], .alpha.-[dimethyl[2-(trichlorosilyl)ethyl]silyl]-.omega.-[[dimethyl[2-(trichlorosilyl)ethyl]silyl]oxy]-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 223779-08-6

CMF (C2 H6 O Si)_n C8 H20 Cl6 O Si4

CCI PMS



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

IC ICM C09D183-14

ICS C09K003-18

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 57, 73

IT 101992-22-7 384820-33-1 384820-34-2

384820-35-3 384820-36-4D, trimethylsilyl-terminated

(mixt.; silicone compd.-contg. surface treating agents and water-

and oil-repellent easily-cleanable articles obtained from treatment)

L35 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2001:775874 Document No. 135:375291 Novel silicon-boron-carbon-nitrogen materials thermally stable up to 2200.degree.C. Wang, Zhi-Chang; Aldinger, Fritz; Riedel, Ralf (Department of Chemistry, Northeastern University, Shenyang, 110006, Peop. Rep. China). Journal of the American Ceramic Society, 84(10), 2179-2183 (English) 2001. CODEN: JACTAW. ISSN: 0002-7820. Publisher: American Ceramic Society.

AB Three novel Si-C-B-N ceramic compns., namely Si_{2.9}B_{1.0}C₁₄N_{2.9}, Si_{3.9}B_{1.0}C₁₁N_{3.2} and Si_{5.3}B_{1.0}C₁₉N_{3.4}, were synthesized using the polymer-to-ceramic transformation of the polyorganoborosilazanes [B(C₂H₄Si(Ph)NH)₃]_n, [B(C₂H₄Si(CH₃)NH)₂-(C₂H₄Si(CH₃)N(SiH₂Ph))]_n, and [B(C₂H₄Si(CH₃)-N(SiH₂Ph))₃]_n (Ph is C₆H₅), at 1050.degree.C in argon. The Si-B-C-N ceramics exhibited significant stability with respect to compn. and mass change at 1000-2200.degree.C, including isothermal annealing of the samples at the final temp. for 30 min in argon. The mass loss rate at 2200.degree.C was as low as 1.4 wt%.cntdot.h-1 for Si_{5.3}B_{1.0}C₁₉N_{3.4}, 1.7 wt%.cntdot.h-1 for Si_{2.9}B_{1.0}C₁₄N_{2.9}, and 2.4 wt%.cntdot.h-1 for Si_{3.9}B_{1.0}C₁₁N_{3.2}. The measured amt. of mass loss rate was comparable to that of pure SiC materials. As cryst. phases, .beta.-Si₃N₄ and .beta.-SiC were found exclusively in the samples annealed at 2200.degree.C at 0.1 MPa in argon. For thermodyn. reasons, .beta.-Si₃N₄ should have decompd. into the elements silicon and nitrogen at that particular temp. and gas pressure. However, the presence of .beta.-Si₃N₄ in our materials indicated that carbon and boron kinetically stabilized the Si₃N₄-based compn.

IT 261921-90-8

(precursor; polyorganoborosilazane conversion prepn. and properties of silicon boron carbonitride ceramics thermally stable up to 2200.degree.C)

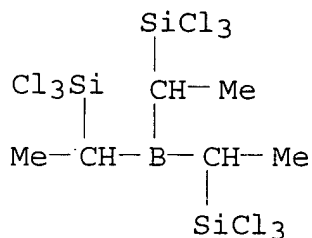
RN 261921-90-8 HCAPLUS

CN Borane, tris[1-(trichlorosilyl)ethyl]-, polymer with ammonia (9CI)
(CA INDEX NAME)

CM 1

CRN 256453-45-9

CMF C6 H12 B C19 Si3



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

CC 57-2 (Ceramics)

Section cross-reference(s): 38

IT 144043-05-0D, Poly[imino(ethenylsilylene)], branched boron derivs.
 156938-37-3 162124-80-3D, Poly[imino(ethenylmethysilylene)],
 branched boron derivs. 261921-89-5 **261921-90-8**
 303015-36-3 303015-46-5

(precursor; polyorganoborosilazane conversion prepn. and
 properties of silicon boron carbonitride ceramics thermally
 stable up to 2200.degree.C)

L35 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2001:108852 Document No. 134:241236 Fabrication of high performance
 ceramic microstructures from a polymeric precursor using soft
 lithography. Yang, Hong; Deschatelets, Pascal; Brittain, Scott T.;
 Whitesides, George M. (Dep. Chemistry and Chemical Biology, Harvard
 Univ., Cambridge, MA, 02138, USA). Advanced Materials (Weinheim,
 Germany), 13(1), 54-58 (English) 2001. CODEN: ADVMEW. ISSN:
 0935-9648. Publisher: Wiley-VCH Verlag GmbH.

AB Ceramic components for microelectromech. (MEMS) systems, for example
 the micrometer-sized gear made from SiBNC, offer the opportunity to
 extend MEMS technol. towards high-temp. and oxidizing-environment
 applications, such as microturbines and high-temp. sensors and
 actuators. Preceramic polymers are used in conjunction with soft
 lithog. and subsequent pyrolysis to produce the high aspect ratio
 structures. The fabrication of specimens from a polymeric
 precursor, synthesized from (trichlorosilyl)-1-(dichloroboryl)ethane
 (TSDE), is described. The description includes the fabrication of
 elastomeric PDMS molds and treatment of the substrates, synthesis of
 TSDE and of the polymeric precursor, and fabrication steps to SiBNC
 ceramic microstructures.

IT **329966-54-3P**

(precursor; fabrication of high performance ceramic microstructures from a polymeric precursor using soft lithog.)

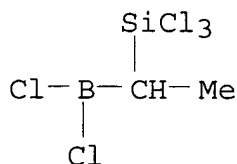
RN 329966-54-3 HCAPLUS

CN Methanamine, polymer with dichloro[1-(trichlorosilyl)ethyl]borane (9CI) (CA INDEX NAME)

CM 1

CRN 214635-76-4

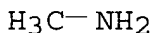
CMF C2 H4 B Cl5 Si



CM 2

CRN 74-89-5

CMF C H5 N



CC 57-2 (Ceramics)

IT 329966-54-3P

(precursor; fabrication of high performance ceramic microstructures from a polymeric precursor using soft lithog.)

L35 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2000:479369 Document No. 133:270272 Boron-containing, non-oxide ceramics from organometallic polymers: synthesis, thermolysis and the influence of boron on materials thermal stability. Weinmann, Markus; Seifert, Hans Jurgen; Aldinger, Fritz (Max-Planck-Institut fur Metallforschung, Stuttgart, D-70569, Germany). Special Publication - Royal Society of Chemistry, 253 (Contemporary Boron Chemistry), 88-91 (English) 2000. CODEN: SROCDO. ISSN: 0260-6291. Publisher: Royal Society of Chemistry.

AB The synthesis of B-modified polysilazanes of the type $\{\text{B}[\text{C}_2\text{H}_4\text{Si}(\text{R})\text{NH}]_3\}_n$ is reported in the context of the prepn. of boron-modified Si-based ceramics which have exceptional high-temp. and oxidn. stability even to temps. as high as 2000.degree.. These compds. are accessible by different methods, e.g., metathesis reactions of tris(chlorosilyl)ethylboranes with ammonia and hydridosilyl)ethylboranes. Besides synthetic procedures, the polymer-to-ceramic conversion (ceramization) of the Si-B-C-N polymers, monitored by TGA, is reported. High-temp. studies of the

as-obtained amorphous ceramics carried out in inert gas atm. up to 2200.degree., occasionally reflect a thermal stability towards decompn. up to 2000.degree.. XRD anal. of annealed samples indicate microstructural evolution in the 1550-1750.degree. range to for .alpha.- and .beta.-SiC and .beta.-Si₃N₄ cryst. phases. Finally, the effects of boron nitride-contg. noncryst. phases on the thermal stability of SiC/Si₃N₄ composites is discussed using a model that is based on thermodyn. calcns. and that is addnl. supported by high-resoln. TEM studies.

IT 261921-90-8P

(preceramic precursor; prepn. and pyrolytic conversion of B-contg. organometallic polymers to Si-based nonoxide ceramics and effects of B on ceramic thermal stability)

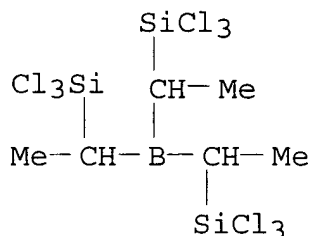
RN 261921-90-8 HCAPLUS

CN Borane, tris[1-(trichlorosilyl)ethyl]-, polymer with ammonia (9CI)
(CA INDEX NAME)

CM 1

CRN 256453-45-9

CMF C6 H12 B Cl9 Si3



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

CC 57-2 (Ceramics)

Section cross-reference(s): 29, 38

IT 144043-05-ODP, Poly[imino(ethenylsilylene)], branched boron derivs.
156938-37-3P 162124-80-3DP, Poly[imino(ethenylmethylsilylene)],
branched boron derivs. 261921-89-5P **261921-90-8P**
303015-36-3P 303015-46-5P

(preceramic precursor; prepn. and pyrolytic conversion of B-contg. organometallic polymers to Si-based nonoxide ceramics and effects of B on ceramic thermal stability)

L35 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2000:218532 Document No. 132:254859 Bulk Si-C-N ceramics and their manufacture. Ishihara, Satoshi; Bill, Joachim; Seitz, Juliane; Weinmann, Markus (Foundation for Scientific Technology Promotion, Japan; Max-Planck-Gesellschaft zur Forderung der Wissenschaften E.V.). Jpn. Kokai Tokkyo Koho JP 2000095568 A2/20000404, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-265440 19980918.

AB The title ceramics have apparent d. $\gt 2.32$ g/cm³ and an amorphous phase as the main phase. Alternatively, the title ceramics have apparent d. $\gt 2.32$ g/cm³ and av. grain size of crystal grains or pptn. phase $\lt 100$ nm. An org. polymer precursor contg. Si, C, and N is fired and compressed at pressure or stress $\gt 250$ MPa at $\gt 1000$ degree. for densification to give the ceramics. The ceramics have high d. and strength.

IT 133599-33-4D, Ammonia-trichlorovinylsilane copolymer, dimethyl-terminated
(firing org. polymer precursor and compressing for manufg. bulk Si-C-N ceramics)

RN 133599-33-4 HCAPLUS

CN Silane, trichloroethenyl-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 7664-41-7

CMF H3 N

NH₃

CM 2

CRN 75-94-5

CMF C2 H3 Cl3 Si

Cl₃Si-CH=CH₂

IC ICM C04B035-56

CC 57-2 (Ceramics)

IT 302-01-2D, Hydrazine, silyl, polymer, processes 133599-33-4D, Ammonia-trichlorovinylsilane copolymer, dimethyl-terminated
(firing org. polymer precursor and compressing for manufg. bulk Si-C-N ceramics)

L35 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

2000:87979 Document No. 132:240575 Synthesis and Thermal Behavior of Novel Si-B-C-N Ceramic Precursors. Weinmann, Markus; Schuhmacher,

Joerg; Kummer, Horst; Prinz, Sabine; Peng, Jianqiang; Seifert, Hans Juergen; Christ, Martin; Mueller, Klaus; Bill, Joachim; Aldinger, Fritz (Max-Planck-Institut fuer Metallforschung and Institut fuer Nichtmetallische Anorganische Materialien Pulvermetallurgisches Laboratorium, Universitaet Stuttgart, Stuttgart, D-70569, Germany). Chemistry of Materials, 12(3), 623-632 (English) 2000. CODEN: CMATEX. ISSN: 0897-4756. Publisher: American Chemical Society.

AB Several boron-modified polysilazanes of general type $\{B[C_2H_4Si(R)NH]_3\}_n$ ($C_2H_4 = CHCH_3$ or CH_2CH_2) were synthesized and their thermal behavior studied. In contrast to the known derivs. with $R =$ alkyl or aryl, we describe ceramic precursors in which the bulky moieties R are substituted with lower wt. groups and/or reactive entities. Reactive units enable further crosslinking of the polymeric framework and therefore minimize depolymn. during ceramization. The polymer-to-ceramic conversion of all synthesized polymers was monitored by thermogravimetric anal. Both low mol. wt. substituents and/or crosslinking units increase the ceramic yield from 50% ($R = CH_3$) to 83-88%. High-temp. thermogravimetric anal. in an inert gas atm. indicates the ceramics obtained are stable up to .apprx.2000 .degree.C. XRD studies of the fully amorphous materials point out that, with increasing temp., formation of .alpha.-SiC or .alpha.-SiC/.beta.-Si₃N₄ cryst. phases occurs at 1550-1750 .degree.C, depending on the material's compn. The resistance of these novel materials toward oxidative attack was investigated by TGA in air up to 1700 .degree.C and SEM/EDX, indicating that the materials efficiently self-protect toward oxidn.

IT 261921-90-8P
(preceramic precursor; prepn. and pyrolysis of B-modified polysilazane precursors for SiC and SiC-Si₃N₄ oxidn.-resistant materials)

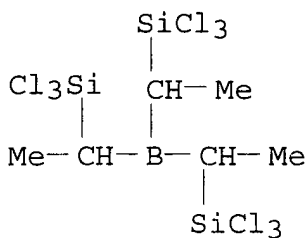
RN 261921-90-8 HCAPLUS

CN Borane, tris[1-(trichlorosilyl)ethyl]-, polymer with ammonia (9CI)
(CA INDEX NAME)

CM 1

CRN 256453-45-9

CMF C6 H12 B Cl9 Si3



CM 2

CRN 7664-41-7
CMF H3 N

NH₃

CC 57-2 (Ceramics)
Section cross-reference(s): 38
IT 261921-89-5P **261921-90-8P** 261921-91-9P 261921-92-0P
261921-93-1P
(preceramic precursor; prepn. and pyrolysis of B-modified polysilazane precursors for SiC and SiC-Si₃N₄ oxidn.-resistant materials)

L35 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
1999:250126 Document No. 130:326402 Silica films with low dielectric constant, formation thereof, semiconductor devices containing them as interlayer electric insulator films, and polysilazane-based coating compositions therefor. Shimizu, Yasuo; Funayama, Toru (Tonen Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11105186 A2 19990420 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-282988 19970930.

AB Films of polysilazanes whose N atoms bind to hydrocarbyl groups are baked if necessary after preheated to form the title films. Thus, 100 g Cl₂SiH₂ was treated with 90 g MeNH₂ in pyridine to give 50 g N-methylpolysilazane, which was dissolved in xylene, filtrated, applied on a Si wafer, dried, treated at 100.degree. for 3 min and at 200.degree. for 3 min, and baked at 400.degree. for 1 h to form a film having sp. inductive capacity 3.1 initially and 3.3 after 1 wk at 23.degree. and relative humidity 50%, d. 1.9 g/cm³, internal stress 0.9 .times. 10⁹ dyne/cm², and crack limiting thickness 1.6 .mu.m.

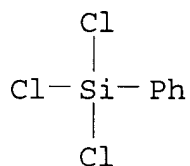
IT **223737-94-8DP**, oxidized
(N-hydrocarbyl polysilazane coatings for formation of silica films with low dielec. const.)

RN 223737-94-8 HCAPLUS

CN Methanamine, polymer with trichlorophenylsilane (9CI) (CA INDEX NAME)

CM 1

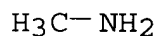
CRN 98-13-5
CMF C6 H5 Cl3 Si



CM 2

CRN 74-89-5

CMF C H5 N



IT 223737-94-8P

(N-hydrocarbyl polysilazane coatings for formation of silica films with low dielec. const.)

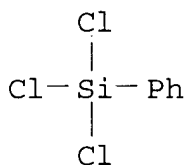
RN 223737-94-8 HCAPLUS

CN Methanamine, polymer with trichlorophenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 98-13-5

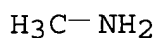
CMF C6 H5 Cl3 Si



CM 2

CRN 74-89-5

CMF C H5 N



IC ICM B32B009-00

ICS B32B007-02; C01B033-12; C09D183-16; H01B003-46; H01L021-316;
H01L021-31

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57, 76

IT 7631-86-9P, Silica, uses 90386-99-5DP, Dichlorosilane-methylamine copolymer, oxidized 112906-91-9DP, Poly[(methylimino)silylene], oxidized 114651-57-9DP, Poly[(methylimino)(methysilylene)], oxidized 131650-24-3DP, Methanamine, polymer with dichloromethylsilane, oxidized **223737-94-8DP**, oxidized (N-hydrocarbyl polysilazane coatings for formation of silica films with low dielec. const.)

IT 90386-99-5P, Dichlorosilane-methylamine copolymer 112906-91-9P, Poly[(methylimino)silylene] 114651-57-9P, Poly[(methylimino)(methysilylene)] 131650-24-3P, Methanamine, polymer with dichloromethylsilane **223737-94-8P** (N-hydrocarbyl polysilazane coatings for formation of silica films with low dielec. const.)

L35 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

1998:485112 Document No. 129:123011 Heat-resistant polyorganosiloxazanes for ceramics with very low dielectric constant and manufacture thereof. Tashiro, Yuuji; Funayama, Osamu (Tonen Corp., Japan). PCT Int. Appl. WO 9829475 A1/19980709, 28 pp. DESIGNATED STATES: W: JP, KR, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1997-JP4900 19971226. PRIORITY: JP 1996-351064 19961227.

AB The title polymers comprise main repeating units -(RSiN3)-, (RSiN2O)-, -(RSiNO2)- and -(RSiO3)- (R = alkyl, alkenyl, cycloalkyl, aryl, alkylamino, alkylsilyl) and have Mn 300-100,000. Gaseous ammonia was blown into a soln. of phenyltrichlorosilane in aq. pyridine at -5.degree. to obtain a polymer with Mn 900 and Mw 2600.

IT **128896-62-8P**, Ammonia-phenyltrichlorosilane copolymer (heat-resistant polyorganosiloxazanes for ceramics with very low dielec. const. and manuf. thereof)

RN 128896-62-8 HCAPLUS

CN Silane, trichlorophenyl-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 7664-41-7

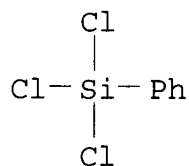
CMF H3 N

NH₃

CM 2

CRN 98-13-5

CMF C6 H5 Cl3 Si



IC ICM C08G077-54
ICS C04B035-14
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 57, 76
IT 29797-90-8P **128896-62-8P**, Ammonia-phenyltrichlorosilane
copolymer
(heat-resistant polyorganosiloxazanes for ceramics with very low
dielec. const. and manuf. thereof)

L35 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
1996:594326 Document No. 125:306868 Molecular weight-controlled
preceramic polymers for new ceramic composites. Keuthen, M.;
Luecke, J.; Ziegler, G. (Inst. Materialforschung (IMA), Univ.
Bayreuth, Bayreuth, 95440, Germany). Verbundwerkstoffe und
Werkstoffverbunde, [Vortragstexte der Tagung], Bayreuth, Germany,
Oct. 24-25, 1995, Meeting Date 1995, 433-436. Editor(s): Ziegler,
Guenter. DGM Informationsgesellschaft: Oberursel, Germany. (German)
1996. CODEN: 63LBAJ.

AB Six oligomers were developed to infiltrate C and SiC fiber preforms
to produce ceramic composites based on SiC, Si₃N₄, and SiO₂. The
composites have high oxidn. resistance and heat resistance, low d.,
and can be substitutes for structural alloys at high temps.

IT **133599-33-4**, Ammonia-trichlorovinylsilane copolymer
(polymer ceramic precursor; mol. wt.-controlled preceramic
polymers for new Si-compd. ceramic composites)

RN 133599-33-4 HCAPLUS

CN Silane, trichloroethenyl-, polymer with ammonia (9CI) (CA INDEX
NAME)

CM 1

CRN 7664-41-7

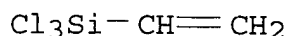
CMF H3 N

NH₃

CM 2

CRN 75-94-5

CMF C2 H3 Cl3 Si



CC 57-2 (Ceramics)

IT 94422-34-1, Ammonia-Dichloromethylsilane copolymer 130268-95-0, Ammonia-Dichloromethylsilane-trichlorovinylsilane copolymer 133599-33-4, Ammonia-trichlorovinylsilane copolymer 140217-93-2, Ammonia-Dichloromethylsilane-dichloromethylvinylsilane copolymer 183238-52-0, Ammonia-dichloromethylvinylsilane copolymer 183238-53-1, Ammonia-Dichloromethylsilane-trichlorosilane copolymer (polymer ceramic precursor; mol. wt.-controlled preceramic polymers for new Si-compd. ceramic composites)

L35 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

1994:273221 Document No. 120:273221 Silazane monomolecular coatings and their manufacture. Kurasawa, Morio (Kurasawa Optical Industry Co. Ltd., Japan). Brit. UK Pat. Appl. GB 2266309 A1 19931027, 26 pp. (English). CODEN: BAXXDU. APPLICATION: GB 1992-8655 19920422.

AB Glass, lenses, mirrors, plastics, metals, ceramics, leather, stone, textiles, and wood are stainproofed by vacuum deposition of cold-curing, amorphous, monomol. polysilazanes or polysiloxazanes. Thus, reaction of NH_3 with 2-perfluorooctylethylsilane trichloride gave a polysilazane that was vacuum-deposited 15 s on a PMMA lens to give a .apprx.10 nm coating with contact angle 102, good hardness and wear resistance, and from which fingerprints, fats, and dust were easily wiped off.

IT 101992-22-7P

(manuf. of, for abrasion- and water- and stainproof vacuum-deposited monomol. coatings)

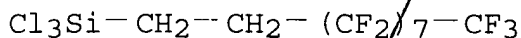
RN 101992-22-7 HCAPLUS

CN Silane, trichloro(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 78560-44-8

CMF C10 H4 Cl3 F17 Si



CM 2

CRN 7664-41-7

CMF H3 N

NH_3

IC ICM C08G077-62
ICS C23C014-12
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38, 40, 43, 45, 56, 57
IT **101992-22-7P**
(manuf. of, for abrasion- and water- and stainproof
vacuum-deposited monomol. coatings)

L35 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
1991:207960 Document No. 114:207960 Polyvinylsilazane: a novel
precursor to silicon carbonitride. Yive, Nee Sun Choong Kwet;
Corriu, Robert; Leclercq, Dominique; Mutin, P. Hubert; Vioux, Andre
(Univ. Montpellier, Montpellier, F34095, Fr.). New Journal of
Chemistry, 15(1), 85-92 (English) 1991. CODEN: NJCHE5. ISSN:
0398-9836.

AB Poly(vinylsilazanes) were prepd. by polymn.-ammonolysis of
dichlorosilanes. The polymer could be crosslinked thermally or
catalytically in the presence of H₂PtCl₆ or KH. Pyrolysis of the
polymers gave high ceramic yield.

IT **133599-33-4P**
(prepn. of)

RN 133599-33-4 HCAPLUS

CN Silane, trichloroethenyl-, polymer with ammonia (9CI) (CA INDEX
NAME)

CM 1

CRN 7664-41-7

CMF H3 N

NH₃

CM 2

CRN 75-94-5

CMF C2 H3 Cl3 Si

Cl₃Si-CH=CH₂

CC 35-6 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 57

IT 133599-32-3P **133599-33-4P** 133745-67-2P 133745-68-3P
(prepn. of)

L35 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
1990:502337 Document No. 113:102337 Manufacture of high-density
ceramics from silicon carbide powder, metal-containing sintering

aid, and preceramic polysilazanes. Burns, Gary Thomas; Keller, Ronald James; Saha, Chandan Kumar (Dow Corning Corp., USA). Eur. Pat. Appl. EP 368535 A2 19900516, 12 pp. DESIGNATED STATES: R: BE, DE, FR, GB, NL. (English). CODEN: EPXXDW. APPLICATION: (EP 1989-311235 19891031. PRIORITY: US 1988-268398 19881107.

AB The title process comprises (a) prepg. an intimate mixt. in which the sintering aid is present at 0.1-3.0 wt.% of the metal based on the wt. of SiC powder, and the polysilazane at such level that the free C value of the mixt. is >0/4 wt.% based on the total wt. of SiC powder and the char derived from the polysilazane, (b) forming the mixt. into handleable greenware, and (c) sintering the greenware in inert atm. at >1900.degree. to obtain SiC ceramics having d. >2.4 g/cm³. Thus, 2.7 g silazane, prepd. from NH₃, 1,1-dichloro-1-silacyclobutane, diphenyldichlorosilane, and phenyltrichlorosilane, was mixed with 30 g SiC powder and 0.15 g amorphous B, the mixt. was compressed at 350 MPa, and the green material was sintered in Ar at 2060.degree. to give a ceramic product having d. 3.09 g/cm³ (96.0% of theor. d.).

IT 128896-62-8

(comps. contg. silicon carbide powder and sintering aid and, high-d. silicon carbide ceramics manuf. from, by hot pressing and pressureless sintering)

RN 128896-62-8 HCAPLUS

CN Silane, trichlorophenyl-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 7664-41-7

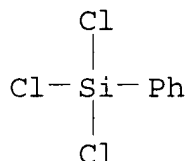
CMF H3 N

NH₃

CM 2

CRN 98-13-5

CMF C6 H5 Cl3 Si



IC ICM C04B035-56

CC 57-2 (Ceramics)

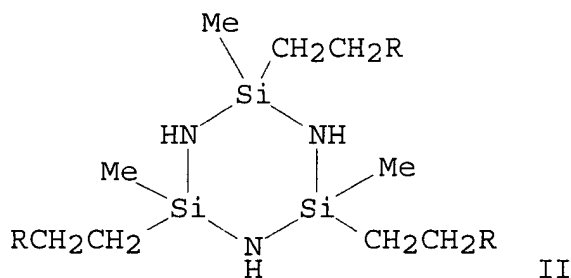
IT 128896-58-2 128896-59-3 128896-60-6 128896-62-8

128896-63-9

(comps. contg. silicon carbide powder and sintering aid and, high-d. silicon carbide ceramics manuf. from, by hot pressing and pressureless sintering)

L35 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
 1982:598263 Document No. 97:198263 Some reactions of
 organochlorosilylalkyl(aryl)adamantanes. Fedotov, N. S.; Evert, G.
 E.; Bolosova, E. V.; Gorislavskaya, Zh. V.; Belyakova, G. B.;
 Sobolevskaya, L. V.; Dobrovinskaya, E. K.; Mironov, V. F. (USSR).
 Zhurnal Obshchei Khimii, 52(8), 1837-42 (Russian) 1982. CODEN:
 ZOKHA4. ISSN: 0044-460X. OTHER SOURCES: CASREACT 97:198263.

GI



AB The reaction of the title adamantanes, e.g. $\text{RCH}_2\text{CH}_2\text{SiMeCl}_2$, (I, R = 1-adamantyl) with H_2O , alcs., org. acids, NH_3 and amines was studied. Thus, reaction of I with NH_3 gave 90% II.

IT **83614-40-8P**

(prepn. of)

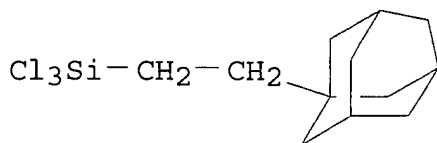
RN 83614-40-8 HCAPLUS

CN Silane, trichloro(2-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl)-, monoammoniate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83614-39-5

CMF C12 H19 Cl3 Si . H3 N



● NH_3

CC 29-6 (Organometallic and Organometalloidal Compounds)
 IT 70558-22-4P 82245-60-1P **83614-40-8P** 83630-19-7P
 83630-20-0P 83630-21-1P 83630-22-2P 83630-23-3P 83630-24-4P
 83630-25-5P 83630-26-6P 83630-27-7P 83630-28-8P 83630-29-9P
 83630-30-2P 83630-31-3P
 (prepn. of)

L35 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
 1974:134651 Document No. 80:134651 Novel organosilicon waterproofing
 agents for textiles. Andrianov, K. A.; Izmailov, B. A.; Nessonova,
 G. D.; Khrisoskuli, N. A. (USSR). *Primen. Silikonov Tekst. Prom.*,
 35-42. Tsent. Nauch.-Issled. Inst. Inform. Tekh.-Ekon. Issled.
 Legk. Prom.: Moscow, USSR. (Russian) 1971. CODEN: 27NCAG.

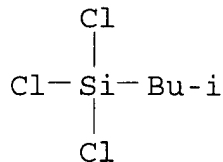
AB Poly(alkylsilazanes), general formula $[\text{RSi}(\text{NH})_{1.5}]_n$ (I), where R is
 alkyl, can be used for the waterproofing of cotton or cotton-wool
 blends. I are prepd. by reacting RSiCl_3 with $\text{NH}_3(\text{g})$ in an organic
 solvent. The properties of the following I are reported:
 ammonia-isobutyltrichlorosilane copolymer [51382-19-5],
 ammonia-isohexyltrichlorosilane copolymer [51382-20-8],
 ammonia-isononyltrichlorosilane copolymer [51494-11-2],
 ammonia-methyltrichlorosilane-isononyltrichlorosilane copolymer
 [51494-12-3], ammonia-ethyltrichlorosilane-isononyltrichlorosilane
 copolymer [51494-13-4], and ammonia-isobutyltrichlorosilane-
 isononyltrichlorosilane copolymer [39322-67-3]. The I can be
 applied either as 3% solns. in PhMe or at 0.5-1.0% aq. emulsions.
 After the impregnation with I the fabric are dried at 18-20.deg. and
 annealed at 1.0.deg. for 10 min.

IT **32758-10-4 51979-64-7**
 (waterproofing agents, for textiles)

RN 32758-10-4 HCAPLUS
 CN Silane, trichloro(2-methylpropyl)-, polymer with ammonia (9CI) (CA
 INDEX NAME)

CM 1

CRN 18169-57-8
 CMF C4 H9 Cl3 Si



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

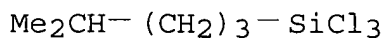
RN 51979-64-7 HCAPLUS

CN Silane, trichloro(4-methylpentyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 20170-36-9

CMF C6 H13 Cl3 Si



CM 2

CRN 7664-41-7

CMF H3 N

NH₃

CC 39-10 (Textiles)

IT **32758-10-4** 39322-67-3 51494-11-2 51494-12-3
51494-13-4 **51979-64-7**

(waterproofing agents, for textiles)

L35 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN

1971:437098 Document No. 75:37098 Ammonolysis of
organotrichlorosilanes. Vancea, Liviu; Haiduc, Ionel (Univ.
Babes-Bolyai, Cluj, Rom.). Studia Universitatis Babes-Bolyai,
Chemia, 15(2), 45-52 (English) 1970. CODEN: SUBCAB. ISSN:
1224-7154.

GI For diagram(s), see printed CA Issue.

AB Ammonolysis of organotrichlorosilanes (RSiCl_3 , $\text{R} = \text{Pr}$, Bu , iso-Bu and $p\text{-tolyl}$) yielded an unstable system which further underwent further reaction with elimination of NH_3 , due to a polycondensation reaction of the primary ammonolysis product. The conversion of meso mols. into end- middle- or branched groups resulted in the formation of a crosslinked polymer (I) via the intermediate linear mol. $(\text{H}_2\text{N})_2\text{RSiNH}[\text{SiR}(\text{NH}_2)\text{NH}]_n\text{SiR}(\text{NH}_2)_2$ and cyclic $[(\text{HN})_{0.5}\text{SiR}(\text{NH}_2)(\text{NH})_{0.5}]_n$.

IT 32758-08-0 32758-09-1 32758-10-4
32758-11-5

(crosslinked)

RN 32758-08-0 HCAPLUS

CN Silane, trichloropropyl-, polymer with ammonia (8CI) (CA INDEX NAME)

CM 1

CRN 7664-41-7

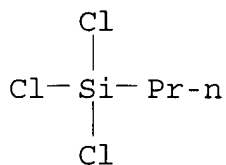
CMF H3 N

NH_3

CM 2

CRN 141-57-1

CMF C3 H7 Cl3 Si



RN 32758-09-1 HCAPLUS

CN Silane, butyltrichloro-, polymer with ammonia (8CI) (CA INDEX NAME)

CM 1

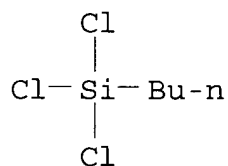
CRN 7664-41-7

CMF H3 N

NH_3

CM 2

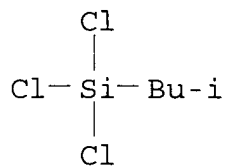
CRN 7521-80-4
CMF C4 H9 Cl3 Si



RN 32758-10-4 HCAPLUS
CN Silane, trichloro(2-methylpropyl)-, polymer with ammonia (9CI) (CA INDEX NAME)

CM 1

CRN 18169-57-8
CMF C4 H9 Cl3 Si



CM 2

CRN 7664-41-7
CMF H3 N

NH₃

RN 32758-11-5 HCAPLUS
CN Silane, trichloro-p-tolyl-, polymer with ammonia (8CI) (CA INDEX NAME)

CM 1

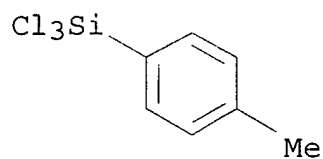
CRN 7664-41-7
CMF H3 N

NH₃

CM 2

CRN 701-35-9

CMF C7 H7 Cl3 Si



CC 36 (Plastics Manufacture and Processing)

IT 32758-08-0 32758-09-1 32758-10-4

32758-11-5

(crosslinked)